

JPRS-UTR-85-003

12 February 1985

USSR Report

TRANSPORTATION



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

Soviet books and journal articles displaying a copyright notice are reproduced and sold by NTIS with permission of the copyright agency of the Soviet Union. Permission for further reproduction must be obtained from copyright owner.

12 February 1985

USSR REPORT TRANSPORTATION

CONTENTS

CIVIL AVIATION

1st Deputy Minister on 1984 Civil Aviation Performance (B. Ye. Panyukov; VOZDUSHNYY TRANSPORT, 27 Dec 84)	1
Collegium on Aviation Fuel Conservation Efforts (VOZDUSHNYY TRANSPORT, 1 Dec 84)	3
Career of Kazakh Civil Aviation Chief Profiled (Nikolay Alekseyevich Kuznetsov Interview; NEDELYA, No 46, 12-18 Nov 84)	5
Aeroflot Begins Service to Togo (V. Degtev; VOZDUSHNYY TRANSPORT, 5 Jan 85)	10
IL-76T Used To Deliver Fuel Supplies to Far North (V. Tamarin; VOZDUSHNYY TRANSPORT, 13 Dec 84)	12
Finnair, LOT, SAS Reps in USSR on Present Operations, Plans (Mikko Okkeri Interview; VOZDUSHNYY TRANSPORT, 29 Dec 84)	15
1st Delivery of Polish-Built AN-28 to USSR (Yu. Vasil'kov; TRUD, 30 Nov 84)	19
Activities at MIL Experimental Design Bureau (A. Gorokhov; PRAVDA, 22 Nov 84)	21
Activities at Institute's Flight Testing Complex (S. Kozyrev; VOZDUSHNYY TRANSPORT, 27 Nov 84)	24
Research at Automated ATC Scientific-Experimental Center (T. Anodina; GRAZHDANSKAYA AVIATSIYA, No 11, Nov 84) ...	26
Airport Ground Equipment Under Development at Riga (I. Afanas'yev; VOZDUSHNYY TRANSPORT, 27 Nov 84)	29

Construction Delays at Pendzhikent Airport in Tajik SSR (A. Larenok; VOZDUSHNYY TRANSPORT, 27 Nov 84)	31
Improvements in Kazan Airport Equipment, Facilities (Ye. Tsipin; VOZDUSHNYY TRANSPORT, 29 Nov 84)	34
Improvements Under Way at Gorkiy Airport (V. Deberdeyev; VOZDUSHNYY TRANSPORT, 4 Dec 84)	37
New Discovery in Supersonic Flight Research (I. Novodvorskiy; IZVESTIYA, 30 Nov 84)	40
Briefs	
Leninabad Oblast Terminal	42
Chimkent Oblast Terminal	42
Poltava Air Terminal	42
Kulyab-Samarkand Route	43
TU-154M Production	43

MOTOR VEHICLES AND HIGHWAYS

Republic Ministers on Motor Vehicle Transport Performance (AVTOMOBIL'NYY TRANSPORT, No 10, Oct 84)	44
Report of RSFSR Minister, by Yu. Sukhin	
Report of UkSSR Minister, by F. Golovchenko	
Report of KaSSR Minister, by A. Karavayev	
New Family of ZIL Trucks To Replace ZIL-130 Series (D. Glukhovskiy, V. Leonov; AVTOMOBIL'NYY TRANSPORT KAZAKHSTANA, No 10, Oct 84)	59
Performance Capabilities of Ural-5557 Agricultural Truck (A. Romanchenko, et al.; AVTOMOBIL'NYY TRANSPORT, No 10, Oct 84)	62

RAIL SYSTEMS

Duties of Railways Minister, Deputies, Collegium Assigned (GUDOK, 18 Jan 85)	68
Coal Hauling Shortfall for 1st Half of November (GUDOK, 14 Nov 84)	72
Mid-November Coal Hauling Figures Cause Concern (GUDOK, 21 Nov 84)	74
Coal Hauling Problems Continue in December (GUDOK, 12 Dec 84)	76
1st Line of Volgograd 'Metrotram' Opens (A. Venetsianov; GUDOK, 10 Nov 84)	78

2nd Line of Tashkent Metro Opens Ahead of Schedule (A. Irinin; PRAVDA VOSTOKA, 7 Dec 84)	80
USSR, PRC Ministers Discuss Mutual Railway Interests (L. Il'ina; GUDOK, 24 Oct 84)	82
Briefs	
New Diesel Train Tested	83
Odessa Metro	83
Agryz—Kizner Section Electrified	83
USSR-CSSR Run Inaugurated	84
Car-Repair Plant in Nizhneudinsk	84
Urengoy—Yamburg Line Started	84
New TE-136 Diesel Locomotive	84
TEM-2U Switcher in Production	85
Climate Laboratory Project	85
New Leningrad Passenger Directorate	85
Automatic Block System Operational	85
International Railroad Communications Conference	86
MARITIME AND RIVER FLEETS	
Briefs	
New Ocean Reefer	87
New Tugboat Design Developed	87
Air Cushion Passenger Vessel	87
All-Purpose Freight Barge	87
Hydrofoil Passenger Vessel	88
All-Purpose Lo-Ro Freightier Launched	88
Siberian River Dry-Cargo Ship	88
Large-Tonnage Side-Loader	89
Reefer for Cuba Trade	89
PORTS AND TRANSSHIPMENT CENTERS	
Collegium Urges Faster River Port Construction in Siberia (VODNYI TRANSPORT, 1 Sep 84)	90
Plan for Improving Port Operations Under Study (B. Nesterovskiy; VODNYI TRANSPORT, 11 Nov 84)	92
Problems in Ilichevsk-Varna RR Ferry Operations (M. Gorbis, D. Romanov; GUDOK, 13 Dec 84)	93
Justifications for Muuga Port Project (V. Khrustov; KRASNAYA ZVEZDA, 25 Nov 84)	100
Briefs	
Magadan Commercial Port Complex	102
River Port Expanding	102
New Floating Crane Developed	102
Leningrad Port Related Enterprises	103
Non-Freezing Port	103

Container Terminal Throughput Improved	103
Zhdanov Container Processing Improved	103
New Zhdanov Cargo Facilities	103
Elevator for Riga Port	104
New Berth in Magadan	104
Ventspils Berth Begins Operations	104
Osa Berth Commissioned	104

INTERSECTOR NETWORK DEVELOPMENT

Railways Blamed for Vanino-Kholmsk Crossing Delays (V. Antonenko; VODNYI TRANSPORT, 1 Dec 84)	105
Pallet, Container Shipping for Far North Stressed (V. Mikhaylov; MATERIAL'NO-TEKHNIЧЕСКОЕ SNABZHENIYE, No 9, Sep 84)	108
Official Wants Lower Tariffs on Container Shipping by Truck (V. Kuznetsov; VODNYI TRANSPORT, 18 Dec 84)	112

CIVIL AVIATION

1ST DEPUTY MINISTER ON 1984 CIVIL AVIATION PERFORMANCE

Moscow VOZDUSHNYY TRANSPORT in Russian 27 Dec 84 p 2

[Report on press conference held by Deputy Minister of Civil Aviation B. Ye. Panyukov in the USSR Ministry of Foreign Affairs press center 26 December: "Pleasing Results"]

[Text] A press conference was held 26 December in the MID [Ministry of Foreign Affairs] press center for Soviet and foreign journalists at which the results of Aeroflot's work in 1984 were summed up.

Opening the press conference, Deputy Minister of Civil Aviation B. Ye. Panyukov said:

"The year 1984 was marked by events of historic significance for the Communist Party and the state, and all the Soviet people. The decisions and arrangements of the February, April and October (1984) plenums of the CPSU Central Committee and the First and Second sessions, 11th Convocation, of the USSR Supreme Soviet, continuing the line of the party's 26th congress and the May and November (1982) plenums of the CPSU Central Committee, are exerting ever-increasing influence on improvement in the activity of party, soviet and economic organs and on the increase in the masses' labor and sociopolitical activity. Successful development of the national economy is linked to a large extent with the well-adjusted steady functioning of all forms of transportation, and air transportation in particular."

The USSR TsSU [Central Statistical Administration] has published a report that the 1984 state plan was fulfilled by civil aviation ahead of schedule. More than 112 million passengers and 3 million tons of freight and mail have been carried by Aeroflot. About 103 million hectares of agricultural lands have been treated from the air. At this time the total length of Aeroflot's routes exceeds 1 million kilometers. More than 3,600 cities and settlements in our country have been linked by regular air service.

Aeroflot's prestige in the foreign arena is high as well. Aeroflot aircraft now fly to 120 points in 97 countries. This year scheduled air service was begun between the Soviet Union and the Republic of Malta, in the coming days flights will begin to the Republic of Togo, and routes have been opened between

Kiev and Dresden, Tashkent and Varna, Tbilisi and Berlin, Tbilisi and Prague, Sochi and Dresden, Sochi and Leipzig, Moscow and Erfurt, Leningrad and Frankfurt, Moscow-Shannon-Leningrad-Moscow, and others.

Much attention is being devoted to Aeroflot's development in the regions of Siberia, the Far East, and the Far North. This year 15 new air routes were opened, basically to serve the oil workers of Western Siberia. Thus, airways have linked Nizhnevartovsk with Krasnodar and Kiev, Novyy Urengoy with Simferopol, Donetsk and Krasnodar, and Kiev with Surgut and Nadym.

Aeroflot's fleet of aircraft is continuously being brought up to date. Aircraft with large passenger capacity are going out on the longest routes, which significantly increases the quality of service. For example, on the Norilsk-Sochi, Magadan-Vladivostok-Krasnodar-Simferopol routes, the Tu-154 has made its appearance in place of the Il-18. Flights from Moscow to Anadyr, from Krasnoyarsk to Kiev and Leningrad, and from Petropavlovsk-Kamchatskiy to Simferopol are being made now in the Il-62, but Aeroflot's Il-86 flagship now flies from Leningrad to Mineralnyye Vody and Simferopol, replacing the Tu-154. This exchange has been made on 52 routes.

But Aeroflot is not only passenger transportation. Civil aviation's role is well-known in assisting agricultural, communications and public health workers; in conducting scientific research and geological exploration operations; and in laying power transmission lines and oil and gas lines in regions of the country that are not easily accessible. Civil aviation is playing a considerable role in working out the Food Program of the USSR. A large volume of the work (more than 30 percent) has been carried out by Aeroflot in servicing organizations of the USSR Ministry of Geology in the territory of Arkhangelsk Oblast, the Komi ASSR, Western Siberia, Yakutia and the Far East. Recently workers of Aeroflot, together with all the Soviet people, marked a labor victory on the BAM [Baykal-Amur Mainline].

In conclusion, leading workers of the Ministry of Civil Aviation responded to many questions from the journalists.

8936
CS0: 1829/76

CIVIL AVIATION

COLLEGIUM ON AVIATION FUEL CONSERVATION EFFORTS

Moscow VOZDUSHNYY TRANSPORT in Russian 1 Dec 84 p 2

[Column: "In the MGA [Ministry of Civil Aviation] Collegium"]

[Excerpt] At a scheduled meeting, the MGA Collegium considered practical measures to reduce the proportionate consumption of aviation fuel in accordance with the "Basic directions of economic and social development in the USSR for 1981-1985 and the period up to 1990," approved by the 26th CPSU Congress. It was noted that, as a result of systematic work conducted in civil aviation enterprises to introduce scientific developments in the sector and to increase the level of use of aircraft for commercial loads, a steady reduction has been made in the proportionate consumption of aviation fuel (by 2.7 percent in 1981, by 3.4 percent in 1982, by 6.6 percent in 1983, and by 8.1 percent in 9 months of 1984 compared with the 1980 level), which has been the basis for the increased volume of air transport operations in recent years.

The sector has reserves for all the basic directions of civil aviation production activity which must be brought into action for efficient fuel consumption. The chiefs of a number of administrations which are not devoting sufficient attention to increasing the percentage of commercial loading were subjected to serious criticism. Thus, in the Tyumen, Magadan, East Siberian and Far East administrations of civil aviation, the percentage of commercial loading for 9 months of 1984 decreased compared with the same period in 1983 by 0.2-3 percent.

The introduction of towing to the runup area, keeping aircraft surfaces in good condition by washing, ensuring the stability of engine operating characteristics by flushing out gas and air lines, using ground-based conditioners and equipment of ramps with ground-based sources of electricity to reduce the operation of auxiliary powerplants, replacement of heat engines for clearing runways of snow and ice by the introduction of snowplows with blowers, introduction of machinery with infrared lighting, and broader application of chemical reagents provide a large potential for economizing aviation fuel in civil aviation subunits. The GUERAT, UNS, UKS MGA [the Main Administration for Operation and Repair of Aviation Technical Equipment and the Ground Structures and Capital Construction administrations of the Ministry of Civil Aviation] are not exercising adequate supervision of the organization of these operations in the sector.

The ministry collegium approved a decree obligating the chiefs of administrations, enterprises and organizations and plant managers in civil aviation to ensure effective supervision of the fulfillment of approved plans for measures to economize aviation fuel and, based on local conditions, to develop and implement supplemental measures which make it possible to ensure fulfillment and overfulfillment of the established plan targets under the limits allocated for aviation fuel. Steps have been worked out to further stimulate operations in the field of aviation fuel economy.

8936

CSO: 1829/78

CIVIL AVIATION

CAREER OF KAZAKH CIVIL AVIATION CHIEF PROFILED

Moscow NEDELYA in Russian No 46, 12-18 Nov 84 p 13

[Interview with Nikolay Alekseyevich Kuznetsov, chief of the Kazakh Administration of Civil Aviation, by Boris Sadkov; date and place not specified]

[Text] He has flown about 15,000 hours and personally has trained about 100 pilots of superior ability. He now commands a republic's civil aviation. Member of the Central Committee of the Kazakhstan Communist Party, deputy of the Kazakh SSR Supreme Soviet, chief of the Kazakh Administration of Civil Aviation, Honored Pilot of the USSR, and Twice Hero of Socialist Labor, Nikolay Alekseyevich Kuznetsov is the guest on our page 13 today.

[Question] Nikolay Alekseyevich, TASS has reported that a bronze bust of Twice Hero of Socialist Labor N. A. Kuznetsov was unveiled 2 November at the central farmstead of the Put' Lenina sovkhos in Nurinskiy Rayon, Karaganda Oblast. How does the twice hero recall his homeland? You probably often looked up at the sky there, dreaming about flying?

[Answer] No, I don't fit into your "scenario." No airways passed over our village, and my parents were engaged in the most earthbound work, as peasants. There were seven of us children, and none of my brothers or sisters had a longing to fly. My father died young, and I had no chance to do any kind of dreaming; I went to work at age 13 to feed the family. I worked and studied. I was called into the army in 1941. I must say that I was prepared rather well for military service; I had the badges for "Voroshilov Marksman," the GTO, GSO ["Ready for work and defense", "Ready for medical defense"], and the "Avtodor" [Society for the Promotion of Motoring and Road Improvement] (I drove all types of motorcycles). I thought of getting into either a motorized unit or the infantry, or, what would have been absolutely wonderful, into the cavalry (my grandmother kept a First Mounted Army poster in a trunk and she used to show it to me on holidays). But they sent me to aviation mechanics school in Leningrad Oblast. Later they based it in Kazakhstan. I also completed training there with the rank of senior sergeant, technical service. They assigned me to one of the schools of the Civil Air Fleet, which then was training military pilots. In August 1942, upon completing it, I was already mentally engaging in dogfights with the fascist aces, but headquarters was thinking its own way: three graduates, including me, stayed in the school as instructors.

[Question] You were disappointed, probably?

[Answer] Of course I was disappointed! In my heart it was simply difficult. Those who graduated at the same time are already fighting, and we are stuck in the rear lines... Once my friend Borya Stepanov said: "Kolya, let's not go out for flights today. They will fit us in and send us to the front." They had really "fit us in" and left us in school. Bor'ka Stepanov later escaped all the same; he flew in a bomber and bombed the Hitlerites, but I did not get to fight. Only after victory did they authorize me to leave the educational institution.

[Question] And what was next in your aviation career?

[Answer] An ordinary pilot in a Po-2, then a flight commander, instructor, squadron commander, commander of a flying unit, first deputy chief of an administration, and then chief. Only at the end of 1983 did I stop flying as a pilot. But so far I am still permitted. Neither the physicians nor the higher skills commission object to my flying. And no one objects, except my wife (he laughs).

[Question] The young Kazakh men also probably like flying work. Are there many of them among your students?

[Answer] Virtually all the cockpit personnel in Kazakhstan's transport aviation "have passed through my hands." Knowledge of the Kazakh language has helped, of course; I speak it fluently. The main thing, in my opinion, is to catch the bases of the language: one word can have several meanings; when you understand this, it is easy to become further proficient in conversation. I have trained and authorized for flights all the pilots--Kazakhs and non-Kazakhs--and I have dealt with all commanders personally. Kazakhs constitute 12 percent of the administration's cockpit personnel today (but they made up only 3 percent about 10 years ago). They are good men, hard-working and good pilots. Quite a few aviation subunit commanders have come from their ranks.

[Question] Nikolay Alekseyevich, our aircraft had barely landed at Alma-Ata when the ramp and buses arrived in literally 1 minute. Is this a rule or a pleasant exception to the rule?

[Answer] Nearly a rule, but we did not bring this about all at once. It is no secret to anyone that often a person flies swiftly for thousands of kilometers and then waits for a full half-hour before the ramp is brought up to the airliner, and another hour before he gets his baggage. And the airport officials are chiefly to blame for this. We have organized a special competition among the combined shifts and all ground services "For model completion and servicing of flights." The key flights first of all--the Moscow, Kiev and Sochi flights... This matter has been corrected somewhat, and the shifts are competing excitedly. But the manager must not let all the reins out of his hands for a day, either.

[Question] You have headed the administration for nearly 15 years. Possibly over these years your command has called you "on the carpet" once or twice. Won't you tell us when and why you received the largest "shaft" from your leadership?

[Answer] (He laughs). Have you read the book by Academician Tereshchenko, "Sovety upravlyayushchemu" [Advice for the Manager]? A very sensible piece. There's an interesting passage there which I learned by heart: "The value of a manager will always be greater if he can confirm his plans with his boss without upsetting him." It is more apparent from the top, as they say. But this is just a saying. In my own management, I see everything better, all the same.

[Question] And can you give us an example, nevertheless?

[Answer] Well, let us say we've built an airport. It has been written in black and white in the technical and economic substantiation that only Tu-154 aircraft should be operated there. A runway is only so long, and no longer. The economists have obtained our passenger flow from the statistics, from the situation at this very minute. But the number of passengers invariably increases, and we have to look into the near future. And we began demonstrating that a new runway should be counted on for all types of large-payload aircraft, and consequently, it should be longer (but this is an additional capital investment). In a word, I decided to act at my own peril, and we began building "our own" runway in parallel with the one for the Tu-154. Someone in the collegium talked me out of it: "Stop this--do you want to get into trouble?" Well, I answered, even if they remove me, it will come to that anyway in a year or two and they'll still make me remodel it. In the final analysis they agreed with me, reviewed all the data and authorized it officially. (He opens a safe and gets a folder with telegrams). Here: "Report at once...", "Get over here on the double..." and even "Now you've gone too far." I'm saving them as mementos (he laughs).

[Question] In general, should the administrator possess the basic qualities of a pilot--presence of mind, self-control, the ability to take a calculated risk in time?

[Answer] The chief of the administration has more work and responsibility, of course, but the pilot has enough concerns. He can get into an extreme situation at any second and he has to be able to get out of it. Finding this constant "readiness number one," a particular psychological adjustment, is the most complex stage in a pilot's training. If the second link in the "man-machine" system (or as we call it, "pilot-airplane") fails, this is not an emergency yet. But if the man "fails," there's trouble. As the first order of priority, we accustom pilots to "readiness number one": you are flying an aircraft with priceless cargo, we say--people. Always remember that behind you in the cabin there are so many people whose lives depend entirely on you, on your intellect and skill. Understandably, it is not easy for you. The same Il-76 is essentially a flying plant. While the manager of an ordinary plant sits in a chair on the ground, you are flying along at a speed of 1,000 kilometers per hour, and you have to make an approach when the visibility is 400 meters and the cloud base is 30 meters; be on the alert!

[Question] It's probably especially difficult for the pilot during landing?

[Answer] Not only in landing, but during takeoff as well. Pressure and pulse rate increase. Perspiration sometimes appears on the brow of even the most experienced pilot. The usual reaction of one's organism to excessive stress and a sense of immense responsibility.

[Question] Have you yourself encountered extreme conditions?

[Answer] I read in one clever book that there hasn't been a pilot yet who has not found himself in extreme conditions at least once.

[Question] But still, have you in practice gotten out of a situation in a specific case?

[Answer] I was 25 years old then. I was working in medical aviation. I was assigned a flight with a landing in the mountains (I had to take out a seriously ill geologist). They radioed me the coordinates: square number such-and-such, but I had to search in the square for the location of the point, where the geologist was. I took off with an attractive young woman doctor on board. But it should be noted that it was extremely difficult to choose a landing area. If you don't take the wind and the terrain into account, you'll be breaking up firewood. I arrived in the mountains, found the spot, and rushed in for a landing. And only when the landing gear touched the ground did I realize... My little airplane is speeding along the ground, and ahead is a ravine which I didn't notice from above because of the high grass. I cannot increase power and go around again: above the ravine, directly at the level of my forehead, is a mountain! Fortunately, I thought it out right away: I added power, increased the slipstream on the tail surface and rudder--into a turn. The airplane leaned sharply on its wing and spun in place like a top, striking the ground with its surface. I spun around and around, lost speed and came to a stop... After this incident I didn't find the place for several days, and I cursed myself all the time. I should have first circled again and looked, where, what and how. But I was a boy, "rushing in for a landing!" A lesson for my entire life...

[Question] The Kazakh Administration holds one of the leading places in the country for using aircraft in the national economy. Once I flew out to the virgin lands for weed eradication, and literally hundreds of airplanes were taking part in this operation.

[Answer] The geologists, hydrologists, glaciologists, physicians and many other specialists cannot get along without us, the "fliers." But you are right, the basic support is for treatment of agricultural lands. Weed eradication is just one form of air operations; in a year we carry out 69 operations: top dressing, combating rodents and insects--crop pests, defoliation (the artificial removal of cotton plant leaves), protecting forest areas... We treat the fields and forests not only in Kazakhstan, but neighboring republics as well. For several years now we have been exterminating rodents in fraternal Mongolia. There, specialists have determined, up to 1,200 field mice are counted sometimes on 1 square kilometer of agricultural land!

[Question] But I return to weed eradication. Treating 19 million hectares in all over two decades --how do the "annushki" [small Antonov aircraft] cope with this? After all, the An-2 has been in use for the fourth 10-year period already.

[Answer] More precisely, 33 years. Yes, today we need an aircraft that is twice as productive. More improved agricultural equipment should be on it. We are relying on the designers.

[Question] Everything is clear regarding the concerns of an administration chief. What were you usually thinking about when you were flying?

[Answer] About anything at all if the flight is proceeding normally. You think about your family more than once, especially when nearly all the family is connected with aviation. The "nearly" refers to my wife, Antonina Dmitriyevna, a physician. My oldest daughter, Tat'yana, has completed the Riga Institute of Civil Aviation. My other daughter, Lyuba, teaches foreign languages in the educational subunit of our administration. Not long ago my wife acquired two "aviation" grandsons (it turns out that she isn't "nearly," either).

[Question] Since we are talking about the changing generations, what do you hope for today's aviation youth?

[Answer] Recently a letter arrived with the same question from the Kirovograd Higher Flight School. I answered it. All my advice comes down to fundamentally one thing: in order to be a master in the sky, one must first become a worthy person on the ground. Do you have everything? Then I'll rush to "Foma Gordeyeva": your MKhAT [Moscow Academic Art Theater of the USSR imeni M. Gor'kiy] has arrived on a tour. I'll go watch how the merchants have become corrupt and are in conflict...

8936
CSO: 1829/78

CIVIL AVIATION

AEROFLOT BEGINS SERVICE TO TOGO

Moscow VOZDUSHNYY TRANSPORT in Russian 5 Jan 85 p 3

[Article by "our" stringer V. Degtev, Sheremetyevo: "Moscow-Lome: Route to a Distant Continent"]

[Text] The first days of the New Year were marked by the opening of a new Aeroflot international route.

On 4 January a Tu-154 jet liner took off on the Moscow-Vienna-Tripoli-Lagos-Lome route and set its course for the city of Lome, capital of the Republic of Togo. Thus Togo became the 97th world state to which Aeroflot aircraft regularly fly.

The Tu-154 covered the distance of 7,100 km in 9 hours 20 minutes. Flights SU-421/422 will be made once a month on Friday.

An intergovernmental Agreement on Air Traffic Between the Soviet Union and the Republic of Togo was signed in Moscow in June 1983. At the signing ceremony Togo Minister of Commerce and Transport P. Y. Tchalla noted the political importance of the signed document and its important role in further development of collaboration between Togo and the Soviet Union.

The trend toward a constant development of air ties between the Soviet Union and developing countries of the African continent has seen new confirmation in recent years. Routes leading to Addis Ababa, Antananarivo, Maputo, Luanda, Lusaka and other points have appeared on Aeroflot's map. Under the present five-year plan Aeroflot aircraft have extended routes to Monrovia (Republic of Liberia), Freetown (Republic of Sierra Leone), Kigali (Republic of Rwanda), Djibouti (Republic of Djibouti), Bujumbura (Republic of Burundi) and Ouagadougou (Burkina Faso).

On the first flight over the Moscow-Lome route the Aeroflot's Tu-154 was flown by crews of the Central International Air Traffic Administration V. Pavlov (on the Moscow-Tripoli leg), and V. Kotyayev (copilot I. Kovalev, navigator Yu. Kulagin, flight engineer V. Gladyshev). The team of flight attendants was headed by instructor G. Valuyeva.

"I have had more than one occasion to open up new routes to Africa in the years of flying on Aeroflot's international routes," says V. Chugayev, deputy commander of the air subunit.

And this time as well, we did everything possible to see that the first flight to the Republic of Togo was made precisely and with a high culture of services

6904

CSO: 1829/82

CIVIL AVIATION

IL-76T USED TO DELIVER FUEL SUPPLIES TO FAR NORTH

Moscow VOZDUSHNYY TRANSPORT in Russian 13 Dec 84 p 1

[Article by special correspondent V. Tamarin by teletype, Bratsk-Polyarnyy: "A Report to the Issue: On Technical Flights by the Il-76T Aircraft to Carry Fuel to Northeastern Parts of the Country Difficult of Access"]

[Text] The Il-76T aircraft is truly versatile: What loads doesn't it carry and to what latitudes doesn't it fly! Modern navigation equipment, a large store of aviation fuel, convenient crew working conditions, a large load capacity, and outfitting with loading and unloading mechanisms permit the aircraft's operation on any Aeroflot routes.

And here is a new mission for the aircraft and its crews: to become air transporters of fuel and other freight to remote parts of Yakutiya.

This summer in Yakutiya was unusually hot, such that even the rivers along which fuel usually is delivered became shallow. Navigation also ended earlier than usual. When it became clear that the present reserves of petroleum products would not suffice until the next navigation period it was decided to assign their transportation to civil aviation.

As always before traffic opens up over an air bridge it was necessary to make technical flights along the route. The choice fell to the crew of a series-produced aircraft with side number 76525 of the Irkutsk air enterprise, consisting of airship commander Vyacheslav Sokov, copilot Vladimir Kutyrev, navigator Vladimir Pyatak, flight engineer Vladimir Lyuyundal, flight radio operator Yuriy Verkhoturov and flight operator Viktor Rogozhnikov.

Based on the fact that there was no experience in such shipments for any of the crews, Viktor Georgiyevich Smykov, first deputy chief of GosNII GA [Order of Labor Red Banner State Scientific Research Institute of Civil Aviation], candidate of technical sciences; Mikhail Stepanovich Kuznetsov, deputy chief of the flight test complex for organization of flight operations of GosNII GA, Honored Pilot of the USSR; and a group of institute specialists in firefighting and airfield equipment were sent on TDY to Bratsk. They were to prepare the technical flights and make an on-the-spot update of provisions of the instructions for transporting fuel in the R-4 tanks.

M. Kuznetsov occupied the commander's seat on the first two flights from Bratsk to Yakutiya. He is the one who gave me necessary explanations on features of the flight.

"We are testing the possibility of transporting 6-7 tanks which will hold up to 30 tons of fuel with V. Sokov's crew. The technology of such transportation requires unconditional observance of fire safety rules and fulfillment of all requirements of the instruction drawn up in GosNII GA for such cases. Two flights with consideration of specific conditions are to confirm the correctness of the methodologies drawn up, especially the separate pressurization of crew and freight compartments..."

The aircraft began its run along the strip and I prepared for an ascent, but suddenly our giant began to brake sharply.

"Don't worry," said V. Smykov, assuaging my concern, "the emergency braking is provided by the test program. Kuznetsov is checking to see how the tanks behave with such braking. The interrupted take-off also permits a check of the readiness of ground services for any surprises. At the same time we will be sure of the reliability of the safety fastenings."

I looked through the small observation port from the crew compartment into the freight compartment. Flight operator Viktor Rogozhnikov just finished his round of the tanks there.

"The fastenings withstood the test," he said, ascending to where we were, "but it couldn't be otherwise."

"Transporting freight especially dangerous in the sense of fire is a rare operation for civil aviation," said Smykov when we had gotten on course. "It requires a high culture of execution of all persons involved: crews, drivers, servicing personnel, firefighters. Personality traits have never been so important: the operation requires not clumsiness or thoughtless automatism, but the comprehension of each step and each movement. Everyone involved in the matter must be precise and extremely disciplined people. Take the following detail: a hammer, wrench or chain can be tossed or it can be laid down neatly. If it is tossed there is steel on steel and before you know it a spark is struck. If a copper hammer is not at hand, you must find specifically that: it is safer to work in this way. These are not petty things, but a perceived necessity."

...We were greeted at the Polyarnyy Airport of Udachnyy settlement, registered for the Mirnyy air enterprise of the Yakutsk UGA [Civil Aviation Administration], by airport chief Timofey Aleksandrovich Reznikov and by Aleksey Alekseyevich Pozdnyakov, deputy chief of the mining and concentration combine. They announced that airport and combine services were fully ready to accept the fuel, and we ourselves became convinced of that.

The air temperature at Polyarnyy, so called because the settlement is located right on the polar circle, is minus 38 degrees. But airfield service workers,

accustomed to such temperatures (this month it already was minus 50 here), functioned quickly and cohesively. The unloading operations are fully mechanized and this permitted removal of the tanks quickly and the loading of several heavy trailers in their place to go to Bratsk. Fire vehicles standing nearby ensured fire safety.

"Yes, much work is ahead," remarked Pavel Yakovlevich Mogila, the air enterprise commander, at the parting in Bratsk. "Believe me, I have been working here 20 years and I have not often had occasion to feel such intensity and such a sense of responsibility."

One can understand the commander's worry and concern: the load on all services of the air enterprise will increase by many times and they will take a unique test of maturity. Airport workers are laboring to the full extent of their strength and capabilities. But the situation demands that they be given immediate assistance with prime movers, drivers and servicing personnel to succeed in processing the freight and assuring regularity of sorties by a large number of aircraft.

...The crews arrive in Bratsk and familiarize themselves with work volumes and the instruction for transporting combustible materials. Yesterday an authoritative commission also arrived from MGA [Ministry of Civil Aviation]. It is checking readiness for safe execution of loading and unloading operations down to the smallest details. Not one trivial matter can be overlooked: everything is important in such a responsible job!

6904

CSO: 1829/83

CIVIL AVIATION

FINNAIR, LOT, SAS REPS IN USSR ON PRESENT OPERATIONS, PLANS

Moscow VOZDUSHNYY TRANSPORT in Russian 29 Dec 84 p 4

[Interview with Mikko Okkeri), General Representative of A/K [Joint Stock Company] Finnair (Finland) in the USSR, (Yan Kuyava), General Representative of A/K LOT (Polish People's Republic) in the USSR, and Bjorn Kristiansen, General Representative of Scandinavian A/K SAS (Denmark-Norway-Sweden) in the USSR, by I. Grigor'yev: "An Interview Before the Chime of Bells"; date and place not given]

[Excerpts] On the threshold of the New Year, when all of us are living in anticipation of the chiming of bells, with whose 12th chime the present year will go into history, we made a traditional New Year's interview of representatives of a number of foreign airline companies in the USSR. We asked them two questions:

"What was the year 1984 like for you?"

"What do you expect from the upcoming year of 1985?"

And so VOZDUSHNYY TRANSPORT's questions were answered by the following:

Finnair: (Mikko Okkeri), general representative of A/K Finnair (Finland) in the USSR

The departing year was successful on the whole for our airline company. This concerns both domestic travel as well as international on European and trans-continental routes. I can note with satisfaction the growth of the passenger flow to the Soviet Union. The Helsinki-Moscow and Helsinki-Leningrad routes are steadily popular with businesspeople and tourists. These not only are from Finland, but also tourists from other countries of Europe and North America. In particular we see an increase in tourists from the United States, for whom Helsinki has become an intermediate point for trips to the Soviet Union.

The number of tourists who wish to rest on the Black Sea coast of the Caucasus and in the Crimea is constantly growing. Finnair liners deliver them to Leningrad, from which they proceed to Sochi and Simferopol on Aeroflot aircraft.

The increase in freight shipments also should be noted. This is explained by the commercial and economic ties which hold one of the central places in relations between our countries. Finnish firms which are building in various cities of the Soviet Union, such as Polar, Polimatka, Perusyukhtuma, Finstroy, Yuit and others in particular willingly use Finnair's services.

Trips to the "Russian Winter" art festival and various sports competitions conducted in the Soviet Union are popular among Finnish citizens. For example, not long before the New Year Finnair liners literally were attacked by fans proceeding to Moscow for the international hockey tournament for the IZVESTIYA prize. Next year Finnair plans to introduce additional flights during the 12th World Youth and Student Festival in Moscow.

LOT: (Yan Kuyava), General Representative of A/K LOT (Polish People's Republic) in the USSR

Last year we celebrated two notable dates: the 40th anniversary of Poland's rebirth and the 55th anniversary of the Polish Airlines-LOT. These two events are inseparably connected in our people's lives, for the rebirth of civil aviation began with my Motherland's liberation by the Soviet Army and the Polish Army.

The departing year was characterized for LOT by a further growth in passenger movements. We surpassed the planned indicator of 1.6 million passengers with a 30 percent increase in passengers carried in comparison with the previous year.

This was a good year for LOT. I have in mind not only the noticeable increase in the passenger flow, but also the very good profits received by our enterprise. We should note the effective use of the aircraft inventory despite the fact that some machines are obsolete and need replacement. By the way, the most rapid modernization of the inventory is one of our chief tasks. In particular, we are very interested in the Tu-154M liners, which we hope will augment our inventory very soon.

We have every basis to assume that in 1985 we will not only reach the record indicators of 1979, when LOT moved almost two million passengers, but that we will even surpass this level somewhat.

I believe these figures permit the statement that the work of our airline company, which experienced a difficult period in the early 1980's, has stabilized. This even occurred faster than assumed. The LOT collective proved that it is capable of the highest achievements and also that we can overcome any ordeals in cooperation with our trusty comrades from the socialist countries.

The further development of LOT largely is connected with construction of the (Okecie)-2 Airport and the City Air Terminal being built in the center of Warsaw. This will be a 50-story building which will accommodate a hotel and will be where passengers are registered and baggage is checked.

The year 1985 will mark the 30th year since the beginning of regular flights between Moscow and Warsaw. During 1984 we carried some 42,000 passengers over this route of friendship and cooperation. Now LOT is making four weekly flights to Moscow and their number will increase to six in the new year. Movements during the 12th World Youth and Student Festival in Moscow promise to be heavy. We plan for some 40,000 tourists and participants to arrive in LOT aircraft.

SAS: Bjorn Kristiansen, General Representative of the Scandinavian A/K SAS (Denmark-Norway-Sweden) in the USSR

Our company is greeting the New Year with special optimism, and there is every basis for this. The company ended the last fiscal year--for us it runs from October 1983 through the end of September 1984--with indicators which surpass all previous ones in the entire history of SAS. This profit exceeded by 50 percent the results which the company had during 1981-1982. The number of passengers carried rose a total of five percent while the number of flights remained at the previous level. We believe that such excellent results were obtained above all through the introduction of the first business class on SAS flights. Based on last year's results our company received the status of "Airline Company of the Year," with the holder of that title determined each year by the journal AIR TRANSPORT WORLD, organ of the world's largest airline owners.

One and a half years ago, when I had just taken over the position of SAS general representative in the USSR, I gave rather high praise to the cooperation between SAS and Aeroflot in an interview with your newspaper and expressed the hope for its further expansion. Now after 1½ years I can conclude with confidence that my optimism was absolutely justified. Moreover, in the time since then our contacts have risen to a qualitatively new level.

SAS President (Ya. Karlzon) was in the Soviet Union in September of this year at the invitation of the USSR Ministry of Civil Aviation. Prospects for a further development of cooperation between Aeroflot and SAS, including matters of expanding flights over the trans-Siberian route from Scandinavian countries to Japan, were discussed during his meeting with Minister of Civil Aviation B. P. Bugayev. By the way, in our relations, special attention is being given to the development of this route. Flights of the wide-body DC-10 liner over the Copenhagen-Moscow-Tokyo route, which we began in April 1983, indicate the great opportunities of this economic route. We are satisfied with the route's operation across Siberia, but deem it advisable to place a new aircraft of larger capacity on this route.

The number of businesspeople who fly between Scandinavia and the Soviet Union increased during the last year, which unfortunately cannot be said of the

tourist flow. But we assume that there is every basis to hope for an increase in tourist movements next year. In particular, it makes sense to think about opening an airline route from Copenhagen and Stockholm to Leningrad.

6904

CSO: 1829/86

CIVIL AVIATION

1ST DELIVERY OF POLISH-BUILT AN-28 TO USSR

Moscow TRUD in Russian 30 Nov 84 p 3

[Article by TRUD's own correspondent Yu. Vasil'kov, Warsaw: "Friendship Orbit: The Wings of Mielec"]

[Text] The first AN-28 aircraft has been made at the aviation plant of the Polish city of Mielec on order of the Soviet Union. Yesterday the ceremony transferring this aircraft to Soviet pilots took place at the airport in Lvov. The enterprise's collective celebrated the 40th anniversary of people's Poland and the 40th anniversary of creative collaboration between aircraft builders of the PNR [Polish People's Republic] with Soviet specialists by this event.

Old-timers remember that the city was awakened by a terrible explosion on the morning of 6 August 1944. Windows in residences blew out and dishes in sideboards broke. Immediately a special, intense silence settled. For several weeks now the fascists had been feverishly preparing for flight and this day had come. They were blowing up the plant at which they had built and repaired the Heinkels, Junkers and Messerschmitts all through the war.

"The sounds of unusual speech interrupted the deadly silence," recalls plant veteran Tadeusz Wodnolowski. "It didn't immediately register in our minds that this was the Russian language. On that memorable day Soviet units disrupted the Hitlerites' plan by a daring maneuver and didn't permit the enterprise to be thoroughly destroyed."

Restorative work began immediately and soon the plant again began work, this time for victory over fascism.

The plant management was ceremoniously transferred into the hands of Polish authorities on the first anniversary of people's Poland, 22 July 1945. The products list of the output of that time reflects the needs of the time. Aircraft made up only a portion of the production. Containers of spare parts for the first Polish tractors left the gates of the plant, manufacture of buses was mastered and even aluminum dishes, for which there was an enormous demand, were produced.

A decisive upswing to a high organizational and industrial level was made in the 1950's with the active help of Soviet specialists. Beginning in 1958 Mielec manufactured the legendary "Annushka"--the AN-2--an aircraft which even by that time had won recognition and popularity throughout the world. This year the enterprise collective ceremoniously noted the output of the 10,000th "Annushka."

Historical facts were diligently documented and illustrated in the museum managed by enterprise veteran Wladyslaw (Vitol'd). Skilled plant craftsmen made models of all machines which are on the assembly line today.

We became acquainted with the workers in the shop which assembles aircraft parts. It struck the eye that everyone was young, people who had just recently completed vocational schools, tekhnikums and institutes.

"Of course a necessary condition in aircraft construction always has been and remains the precision and reliability with which any part is made," says Tadeusz (Khlybovskiy), chairman of the plant organization of the Polish Socialist Youth League. "But today these requirements are being raised to a new level. Workers engaged in processing and assembling must have the most up-to-date knowledge. This is why young people predominate in this shop."

Much new equipment of Soviet and Polish production also has been mastered, including machine tools with program control. Now construction of a new building is under way.

But how about the "new arrival," the AN-28 aircraft? It will be born next to its older brother, the AN-2. Specialists give a very high assessment of the new machine's operating qualities.

"Exceptionally powerful engines," notes test pilot Tadeusz (Pakua), who has flown more than a single thousand kilometers in the AN-2 and who now has shifted to the AN-28. "Therefore a take-off and landing can be made almost vertically, which is especially important in high-mountain areas and at 'cramped' airfields. The aerodynamic qualities are such that when landing I can reduce speed to 130 km/hr. This means the landing run on the strip is cut to a minimum. And how comfortable and good-looking is the passenger lounge! In short, the 'Annushka' will have a wonderful replacement!"

The Mielec specialists are mastering the new aircraft in close contact with their colleagues from the Kiev Design Bureau imeni O. Antonov. Prototype tests were conducted together with Soviet pilots. The materials and equipment also are coming to Mielec from our country. All this creates a reliable foundation for the rhythmic and effective work by the air enterprise collective in Mielec.

6904

CSO: 1829/83

CIVIL AVIATION

ACTIVITIES AT MIL EXPERIMENTAL DESIGN BUREAU

Moscow PRAVDA in Russian 22 Nov 84 p 6

[Article by PRAVDA special correspondent A. Gorokhov: "Report from the Design Bureau: With the Letters 'MI' on the Side"]

[Text] Our "flight" was short. Television screens for simulators of the visual situation--take-off strip, hills, houses--lit up right before our eyes and to the right in the copilot's place. The instruments "came alive" and something began rumbling as if engines had started. In short, we took off and landed...

"That is how we fly," said Oleg Chertok, the person in charge of these simulating displays, as he summed up.

We were in one of the subunits of the aerodynamics department of the Experimental Design Bureau imeni M. Mil', the "leader" (if it can be thus expressed) in contemporary helicopter construction, and not just in the Soviet Union, but in the world. At one time this room, which has seen many things and which now is filled with analog and digital computer systems, contained the forge and foundry of what was at that time a very young helicopter production putting out what seemed to be machines which didn't conform to the laws of nature or even to common sense--helicopters.

It is now, when thousands of rotary-wing flying craft with the letters "MI" and "KA" have constantly intruded on our lives (it is not said for nothing that a helicopter has a hundred professions), that one can look back knowledgeably and condescendingly at the first steps. They were difficult and at times painful inasmuch as they were the first ones. At that time, in 1947, the working apartments of the future KB [design bureau] of M. L. Mil' (the designer and scientist would have been 75 years old today) were located in the Central Aerohydrodynamics Institute (TsAGI) and appeared extremely modest, with just two small rooms.

"We cleared a corner in the aerodynamics specialists' room," recalls Aleksandr Braverman, a veteran of the collective, one of its first 17 authorized workers and now a doctor of technical sciences and USSR State Prize laureate, "and installed several primitive analog machines, voltmeters, a control stick and an ordinary desk. That was our first flying bench. Mikhail Leont'yevich

would come here often and assign us tasks, and he was not beyond trying the controls a bit..."

Of course the present benches are no match for those first ones. Here one can go beyond permissible bounds without constraint, "catch" a situation which might "creep in" (these words are from the designers' lexicon) to practical operations once every ten years and, in short, analytically "digest" engineering concepts on paper with the help of mathematical models.

By the way, today's helicopters apparently cannot function without appropriate electronic computer support for the designer. Life is too short for calculations alone. Engineer Lyudmila Gatilova, a graduate of the Moscow Aviation Institute this year, showed me a simple-appearing little drawing of a torsion bar (a little piece to which the main rotor blade attaches and which must withstand a bunch of stresses--stretching, bending, twisting--which probably are not encountered in machine building practice. It must be said that it is a very responsible part. Only the EVM [electronic computer] is capable of calculating the picture of stresses and, moreover, drawing it on paper and producing a shop drawing.

"It is impossible to do this by hand," says Mark Yur'yev, chief of the department for assemblies of supporting systems, "even theoretically..."

How do young specialists get into aircraft construction? It is clear in the case of Lyudmila Gatilova: her papa, mama and grandfather (!) all are from here, from the Mil' collective. But Aleksandr Solntsev, who came to the OKB [experimental design bureau] eight years ago, admits frankly:

"When we learned in the first course of the MAI [Moscow Aviation Institute] that we had been included in the helicopter group, many didn't like it but in time we saw that there was no more interesting job..."

Solntsev believed that he was lucky. He works on sophisticated devices, those same supporting systems. For a designer, the more difficult the task, the more interesting life is. As a matter of fact, a helicopter is just as complicated as, for example, a nuclear reactor, and this facility has to fly in addition. Take for example the hub of the MI-26 helicopter, one of the latest offspring of the OKB. Behind the commonplace word is a very sophisticated device of titanium alloys three meters in diameter and weighing several tons. It transmits the force of two 10,000 hp D-136 so-called turboshaft engines designed by V. A. Lotarev to an eight-bladed rotor.

PRAVDA already has told about the MI-26 more than once. Nevertheless, I will remind you that this helicopter has the world's largest load-lifting capacity: its payload is 20 tons. The new machine's capabilities are convincingly indicated if only by the record-setting flights of the female crew of outstanding Soviet pilot Inna Kopets. The helicopter's unusual nature also was seen here: women were the first in Aeroflot to master it. Last September an MI-26 was displayed at the international air show in Farnborough, which is in the south of England, and was the largest helicopter which had ever been there. But it is not a matter of epithets such as "the very best." Designers

of the OKB imeni Mil' succeeded in solving a number of specific problems of heavy transport helicopter construction which were not within the powers, for example, of such a venerable firm as Boeing.

"What makes the MI-26 unique?" asks Engineer Aleksey Radin, with whom we are "touring" the design bureau, and he answers his own question: "In practically any transport situation which you can imagine this helicopter will have an advantage over any other rotary-wing craft, both in the absolute amount and size of a load, in loading time and in fuel and monetary expenditure per ton-kilometer."

"That's a fact," says HSU, Honored USSR Test-Pilot Vasiliiy Koloshenko, agreeing with him. He gave the best years of his aviation career to experimental helicopter construction. "In economy the MI-26 is a record-holder. While I was still flying I had occasion to demonstrate Mil' helicopters in 44 countries and to show what these machines were capable of. Nevertheless I believe that the areas of helicopter use still have not been fully uncovered..."

"Everything had been invented, it remained only to do it," Mil' once said in jest about the first steps of the collective which he had founded. And they did it, although this turned out to be the most difficult thing. And it also turned out that far from everything had been invented in helicopter work. It is not by chance that people now speak justly both about the "Mil' school" and about the traditions he laid down in helicopter construction.

"The helicopter does not compete with the aircraft," says General Designer Marat Nikolayevich Tishchenko, a Hero of Socialist Labor and Lenin Prize laureate. "The helicopter supplements the aircraft. It is true that few know that several hours of ground servicing are spent for now for one flying hour of any flying craft. Numerous inventions of recent times and those which, as we say, are approaching, are aimed at simplifying operation and at fundamentally improving reliability. Helicopters already are flying which have no lubrication in the hubs, no bearings in the conventional sense; machines in which the blades are made of composite materials. Aerodynamic outlines are being improved and resistance is being reduced. This means speed is increasing and economy is improving..."

It is difficult or, more correctly, simply impossible to go around the numerous design departments and problem-oriented laboratories of the OKB all at once. More than one day is necessary for this. I will note only the following detail. A large map of the Soviet Union hangs in the vestibule of the main building of the OKB imeni M. Mil' and shows the most important construction sites of the 11th Five-Year Plan. This map is not simply an enlightening element of the interior. Helicopters with the letters "MI" on the side are working at these sites.

The heavy-duty MI-26 now is entering a broad national economic orbit. The electronic computers being programmed by young engineers of the 1980's already are drawing outlines of machines of the future, those which are to work in the 21st century.

6904

CSO: 1829/86

CIVIL AVIATION

ACTIVITIES AT INSTITUTE'S FLIGHT TESTING COMPLEX

Moscow VOZDUSHNYY TRANSPORT in Russian 27 Nov 84 p 3

[Article by S. Kozyrev: "A Chemist's Scales for an Aircraft"]

[Text] "Weigh it?" asked Raisa Pavlovna Sereda as she looked at the object and estimated how much it would weigh.

All three nodded and the crew took its places in the aircraft.

When the Tu-134 rode onto the scales, Sereda, senior engineer for aircraft scales service (there are only two such in the country) at the flight test complex of GosNII [Order of Labor Red Banner State Scientific Research Institute] of Civil Aviation (abbreviated LIK), shifted the weights on the graduated panel.

"Almost 26 tons. Why with the crew? So that everything is as in a flight."

And although these scales are arranged according to the very same principle as those used in the store, they can even weigh an "Antey" (it weighs 225 tons) and the scales have an error of only one kilogram per ton.

When the pilots clambered out of the cockpit and passed through the hangar into the navigation room I asked Sereda: "Why this weighing? Outpatient care for aircraft?"

It turns out that all aircraft which already have moved onto our airline routes have been on these scales. All flying craft which appear in LIK pass over them. The center-of-gravity position of aircraft is found on these same scales.

Not long ago Raisa Pavlovna Sereda had an An-72 which has set almost 20 world records. And the future champion stood obediently for a day in the hangar, presenting first its rear and then its forward undercarriage for the scales.

LIK is the place which has the final say on a new aircraft: whether or not a new aircraft takes its place in Aeroflot depends on results of the state testing.

It seems quite recently that the Il-86 stood in the hangar. It received the "okay" here for carrying passengers. Now it is operating on extended routes and routes popular the year around. But there is no limit to perfection: now a new galley is being tested for it in GosNII GA [of Civil Aviation]. Now there are only two electronic hot-air ovens in the Il-86 instead of nine. And take the aircraft "samovar." Three liters of water boil in it in one minute.

Now a "new recruit" has come to LIK. A helicopter with a unique load-lifting capacity has arrived in the hangar for "on-the-job training." It will be able to carry up to 40 tons of suspended cargo. The helicopter also has been on Sereda's scales.

Recently Sereda sent an Il-62 into the sky aboard which LIK testers were checking out an automated control system.

"Thanks to it pilots will have less bother in a landing," says V. Popov, deputy chief of the experimental equipment shop. "This is because the SAU [automated control system] lands the vehicle."

During tests the crew flew "under a hood" with the system simulating poor visibility. An opaque plastic was hung in the aircraft cockpit. When the altitude was 30 m and 400 m remained to the landing strip the automatic equipment itself found the runway and the aircraft made the landing despite the "fog."

GosNII GA tests everything right down to spoons and forks, seats and tables. ...It may be a galley or a new aircraft--the things are identically important for the testers.

"But all flying 'debutantes' initially visit me on the scales without fail," smiles Sereda.

A "new one" flew in today. Exactly 40 tons without crew.

6904

CSO: 1829/82

CIVIL AVIATION

RESEARCH AT AUTOMATED ATC SCIENTIFIC-EXPERIMENTAL CENTER

Moscow GRAZHDANSKAYA AVIATSIYA in Russian No 11, Nov 84 pp 44-45

[Article by T. Anodina, chief of NETs AUVD (Scientific-Experimental Center for Automated Air Traffic Control), USSR State Prize laureate, doctor of technical sciences, professor: "Scientists Conduct a Search"]

[Text] The Scientific-Experimental Center for Automated Air Traffic Control [ATC]. This collective celebrated its 10th anniversary of existence at the beginning of this year. Despite the relatively short time a long path of development has been covered since the moment the center was founded, from individual subunits to a major scientific establishment. Now three doctors of technical sciences work there and every tenth worker has a candidate of technical sciences degree. Four of the workers at the NETs AUVD have been awarded the USSR State Prize.

The volume of scientific research and development work is growing steadily. In one year alone more than 250 projects are carried out and adopted which provide a substantial economic effect.

The most important direction in the work of the NETs AUVD is the solution to comprehensive ATC problems, particularly the development of principles for building a unified ATC system.

A great amount of work has been done to introduce automated control systems. Back in 1976 the Start was made operational for the first time at the Pulkovo Airport. Now this system, which is the equal of the best foreign models in its parameters, has received a high evaluation from air controller and engineering-technical personnel. An even more sophisticated one, the Start-2 system, already is coming to replace it.

A large group of NETs AUVD workers was awarded state prizes for successful fulfillment of a responsible assignment to introduce automated systems. Among them are A. Fetisov, V. Bukharin, V. Savitskiy and others. V. D'yakov, R. Aksyanov, N. Anikin, G. Vasil'yeva and T. Kalinina have been entered in the "Chronicle of Vital Work by the Youth of Civil Aviation" Honor Book.

One of the chief aspects of automation is the development of new radar and communications equipment models. The center's scientific collective takes a

most direct part in this work. Several types of air control radars and secondary radar systems, promising microwave communications equipment and automated radio centers have been developed and adopted in recent years. The economic effect from the adoption of new and series-produced equipment comprised several million rubles. Much credit goes to V. Kubyshkin, M. Nosov, Yu. Vladimirov, V. Oreshin and V. Chepukhina for achieving this success.

NETs AUVD workers also participate in the broad introduction of automated approach aids which improve the regularity of flights. As of today the main inventory of mainline aircraft and many Aeroflot airports have been fitted with automated landing approach systems based on the International Civil Air Organization (ICAO) first and second category minimum. S. Belogorodskiy, A. Zyuzin, A. Muzalev, V. Kozhevnikov, N. Timoshok, V. Yatsuk and other NETs AUVD workers have made a worthy contribution toward successful fulfillment of these projects.

Engineering-psychological studies of the air traffic controller's work have become a relatively new direction for the scientific collective. As a result ergonomic norms and requirements have been developed which were made the basis in developing future ATC systems. Another result of the work was the introduction of a professional psychophysiological selection among persons entering educational institutions for the "air traffic controller" specialty.

The collective is engaged in developments in the area of navigational support to flights, particularly the substantiation of separation standards and the development of airborne and ground navigation systems. Such center workers as V. Kuranov, V. Rostovtsev, V. Kushel'man, Yu. Fedorov and others made a great contribution here.

Of course, any creative search of initiative is inconceivable without a clear idea of the prospects for development. The importance of such an orientation on the future is emphasized by establishment of a special scientific-technical program. In participating in its implementation the NETs AUVD collective is resolving an entire set of mutually related scientific and technical problems. The most up-to-date research methods such as mathematical simulation and half-scale modeling have been adopted for this work. This became possible thanks to the establishment of the most up-to-date laboratory facility including EVM [electronic computers], simulation and optimization equipment, a programming center, ATC simulators, and a biotechnical complex which will see further development in the future.

It is also impossible not to mention the direction of work being done by the center involving international collaboration, above all with CEMA member countries. An extensive research program approved by the CEMA Permanent Commission for Cooperation in Civil Aviation is being carried out on this plane. Research is being conducted together with a number of other countries on new landing and ATC systems.

Just what is the practical contribution of NETs AUVD specialists to the matter of even fuller support to air transportation for the national economy and the population? This is shown by the following figures: the throughout capacity

of the air space of the Moscow, Leningrad, Sochi, Kiev, Rostov-on-Don, Mineralnyye Vody, Kuybyshev, Krasnodar and other airports in which automated ATC systems are operated has increased 12-15 percent; flight regularity has improved 6-8 percent with the introduction of automated landing systems; the throughput capacity of air corridors and airports has increased by more than a third with a simultaneous improvement in flight safety; the crews' labor productivity rose considerably based on the use of new flying and navigation systems; and a third of the entire fuel saved is the result of an improvement in ATC systems.

At the same time the center's work also contains unresolved problems, and so we have to view everything that has been achieved only as a starting base for subsequent forward progress, for fuller and more effective use of existing reserves, and for a more substantial increase in science's contribution to our sector's dynamic and progressive development.

The center's collective has a clear-cut program of further action. The focus of our attention is on a growth in labor productivity, a strengthening of the regime of economy, a reinforcement of discipline and, in the final account, an increase in the efficiency and quality of all scientific work.

COPYRIGHT: "Grazhdanskaya aviatsiya"

6904

CSO: 1829/91

CIVIL AVIATION

AIRPORT GROUND EQUIPMENT UNDER DEVELOPMENT AT RIGA

Moscow VOZDUSHNYY TRANSPORT in Russian 27 Nov 84 p 2

[Article by I. Afanas'yev, engineer of Test Plant No 85 of Civil Aviation, candidate of technical sciences, Riga: "Addition of the Forces of Science and Production: A Test of Reliability"]

[Text] In his speech at a CPSU Central Committee Politburo session, Comrade K. U. Chernenko said in part that at the present time "the quality of some kinds of metal products generates reproach and the reliability of some machines and mechanisms is poor..."

This conclusion forces scientists, designers and production personnel engaged in the development and production of new equipment for the sector's needs, including those called upon to make ground equipment, to ponder a great deal. The author of this article focuses attention on this.

Each year more and more ground equipment appears in our airports. Its design complexity is constantly increasing, the degree of automation of industrial processes is growing and the work loads are increasing. Under these conditions ever greater importance is assumed by the reliability of mechanisms, a full evaluation of which can be obtained only in the process of testing under a special program using measurement facilities.

Collectives of the Riga department of GosNII GA [Order of Labor Red Banner State Scientific Research Institute of Civil Aviation] and of Test Plant No 85 of Civil Aviation are accomplishing such a task.

It should be noted that testing for ground equipment reliability previously was not carried out. Therefore one can imagine the difficulties which scientists encountered when they began an unknown job. Much organizational work was performed by a group directed by Candidate of Technical Sciences Yu. Lebedev. His knowledge, experience and thoughtful approach to the analyses had a great influence on the end result.

The plant gave the scientists more than ten series-produced machines for testing, including hoisting mechanisms, drives, power systems and electrical

equipment. Unique test benches had to be made for practically each kind. The end results provided very valuable material for the developers.

The program of scientific research of the means of mechanization also provides for participation therein by specialists of the sector's universities. The mechanisms theory chair of the Riga Institute of Civil Aviation Engineers makes a significant contribution to this work. Chair chief V. Golovkin and instructors I. Chulkov, G. Yefremova, E. Sarvi, V. Davizhans and others have been performing an analysis for the second year now of strength characteristics of the designs of five machines made at our plant for the purpose of improving the reliability of their assemblies and parts.

Interesting machine reliability studies have begun under the direction of Professor V. Kanarchuk in the chair of technical operation of special airport means of mechanization in the Kiev Institute of Civil Aviation Engineers.

Scientists also are seeking a replacement for costly materials and studying progressive methods for coating rubbing surfaces. One of the laboratories of the Ukrainian SSR Academy of Sciences is developing methods for performing reliability tests of means of mechanization.

All these studies will help improve the quality of machines being developed for airports.

6904

CSO: 1829/82

CIVIL AVIATION

CONSTRUCTION DELAYS AT PENDZHIKENT AIRPORT IN TAJIK SSR

Moscow VOZDUSHNYY TRANSPORT in Russian 27 Nov 84 p 3

[Article by "our own" correspondent A. Larenok, Pendzhikent, Tajik SSR: "TDY in Response to a Letter: When the Fanfares Fell Silent: Lack of Principle Instead of Conveniences"]

[Text] Dear editors! That February day in 1984 when the first Yak-40 aircraft flew in to us from Dushanbe has remained in my memory as a real holiday. At that time many exciting words were said to the strains of a brass band about the importance of this event and the fact that in the near future everything would be done to complete construction of the entire air terminal complex as quickly as possible. Nine months have passed since then but the air terminal complex is still on the very same construction mark as it was in February. I often have occasion to fly to the republic capital and look bitterly at the ordeals of passengers, especially those with children. The airport not only does not have the simplest pavilion where it would be possible to hide from the burning rays of the sun in summer, and now from the cold wind and rain, but even benches are lacking.

Respectfully, geological engineer M. Rakhmatov

Initially it was hard to believe: were there really not even any benches for the passengers at the Pendzhikent Airport? By the way, I too was among the participants of the technical flight and listened to the speeches to the effect that establishment of direct air traffic between Pendzhikent and the capital of Tajikistan would provide new impetus for the economic and cultural development of the high-mountain area and would significantly reduce en route time (prior to that a person would make his way to Pendzhikent from Dushanbe by way of Samarkand or by way of Leninabad, from where he would fly by An-2). Many good words were said both about the aviators who laid out the very difficult air route and about those who built the runway under very difficult conditions.

The author of the letter to the editors exaggerated nothing. The air terminal building and boiler room were in the very same condition as in February. It is true that an enclosure had appeared, but entrance to the terminal ramp on foot and by vehicle was open and a crowd of more than half a hundred people was near the small wagon which accommodated the airport chief, ticket office and radio operator's booth. To be exactly precise I will say that three benches were standing there, but no more than 15 persons could be accommodated on them. There was nowhere to get a drink of water, and I also didn't see a restroom.

A Yak-40 landed. The people crowded toward it: those who were departing, who were seeing people off or who were meeting people. A policeman tried to stop this spontaneous flow, but the crowd went around him unhindered.

I chatted with airport chief R. Mallayev, who had worked almost 20 years as airport chief at Ayni, which is 30 minutes' flight from Pendzhikent. Mallayev is not having an easy time at the new location: people come primarily to him with complaints about inconvenience in the airport, but even he himself has no conveniences--he still doesn't have an apartment and is living for now without his family. An optimist by nature, the airport chief hopes that everything is surmountable, only that local organs of authority should give the airport more attention.

"The new air route is fully justifying itself," says Mallayev. "In the summer there were two Yak-40 flights a day to Dushanbe and back. Now there is one. . . . We are not satisfying the population's demand for air transportation for now as the passenger flow is too great."

The more reason everything possible should have been done to create at least elementary conditions for air travelers. Why hasn't this been done? Why did the builders wrap up all the work as soon as the fanfares fell silent and the red ribbon was cut?

It turns out that after direct air traffic opened up and the frame of the air terminal building had been erected a thought originated to make it a two-story building. While this matter was being resolved (unfortunately it has not yet been resolved once and for all) work was halted. It is true that now construction is being accelerated and all forces have been shifted here...

The idea of building a two-story air terminal instead of a single-story terminal for 20 passengers an hour probably is a good one, but why must the passenger suffer in the meantime? Why doesn't he have the right to a set of elementary conveniences? Why hasn't even a small wagon in which passengers could take shelter from bad weather been delivered to the airport up until now? (By the way, one has been allocated for this purpose for a long while.)

How can we not recall here the words of the Tajik Administration chief who, speaking at a meeting devoted to the opening of direct air traffic between Dushanbe and Pendzhikent, said: "We are opening up flights only in response to the insistent requests of the residents of your city and rayon. . . . We hope that this advance will be justified and the air terminal complex will become operational in the shortest possible time."

"And it would have," notes construction foreman Yu. Klimov in a conversation with me, "had the flights begun later, after they built the air terminal. Everyone relaxed because the air route was open..."

Work was in full swing at the airport on the following day: finishing work was under way in the air terminal building, the roof was being insulated, an access road was being laid, prefabricated reinforced concrete tanks, each of 100 m³, were being installed, a bulldozer was rumbling busily, and a truck crane first lifted then lowered its cranelike neck... It was a joy to behold!

The thought occurred that had the heads of the Tajik Administration shown more principle and determination earlier the air terminal complex would have been ready long ago. This in part was the subject of a conversation at a conference of interested parties held right here in the airport. The minutes of the conference state in particular that the general contractor--MK-11 of the Leninabaddorstroy Trust--and the subcontractor--PMK-278 of the Tajik SSR Ministry of Construction--were pledging to complete general construction work on the passenger service building and the plant room before 5 December, and to present the installation to the working commission before 20 December. But for this the customer has to supply the tanks, cable, electrical equipment and a number of other materials and equipment on the designated dates.

We will hope that all contracting parties keep their word and passengers in Pendzhikent will be rid of the inconveniences which engineer M. Rakhmatov told us about.

6904

CSO: 1829/81

CIVIL AVIATION

IMPROVEMENTS IN KAZAN AIRPORT EQUIPMENT, FACILITIES

Moscow VOZDUSHNYY TRANSPORT in Russian 29 Nov 84 p 3

[Article by "our" stringer Ye. Tsipin, Kazan: "Foremost Experience is the Sector's Wealth: We Guarantee a Weather Minimum!"]

[Text] The Kazan Airport is the same age as the Soviet Civil Air Fleet. The first domestic passenger aircraft, the AK-1, serviced the Moscow-Kazan route. Now the airport is experiencing a second birth: construction of the city's new air harbor is under way.

Although construction has not been completed the freight and passenger transportation is in full swing. The airport has been authorized to operate with a weather minimum of ICAO Category I. It is common knowledge that the airport category imposes higher obligations on the ERTOS [operation of radiotechnical equipment and communications] base for supporting flights and landings by means of modern radiotechnical equipment and communications. Above all this signifies a need to achieve faultless operation of all ground radiotechnical assets. To this end a set of measures is being implemented at the ERTOS base of the Kazan air enterprise which has permitted precluding preconditions for a violation of traffic regularity caused by equipment outages and improper actions by personnel.

Innovators of the ERTOS base are making a major contribution toward solving the problem of improving equipment reliability and dependability. The story of one innovative suggestion is very interesting. It so happened that there was an outage in the cable relaying signals of the direction-finder and ground control approach radar to the KDP [control tower]. A critical situation arose for receiving aircraft at the airport since operation of the approach and landing circle control service was paralyzed. It required at least 24 hours to restore the cable. Should the airport be closed for that period? No, that could not be allowed.

During these difficult minutes for the airport a duty team of the ERTOS base headed by senior KDP engineer R. Safin and which included V. Semushkina, senior engineer of the radar landing system, and R. Muzafarova, KDP engineer, took over the work of eliminating the emergency situation. Of course it would have been possible to limit themselves to actions according to instructions and wait until the cable was restored... But here is where the best

moral-volitional qualities of the collective and the ability to apply a non-standard, creative approach to the solution of the posed problem showed up. And a bold idea was born in such an extreme situation...

Now it is even difficult to remember who was first to suggest taking advantage of an adjacent cable leading to the landing radar. Yes, at that moment the important thing was to "originate" the idea and determine the scope of the work. But the idea still had to be implemented, and implemented quickly and precisely, for any mistake was tantamount to creating a new emergency situation. It was impossible to interrupt the operation of the landing radar. Here is where the high professional technical training of the engineering-technical workers had its effect. An analysis of the capacity and functional purpose of individual conductors of the landing radar cable was performed in a short time. Free conductors were identified. A number of this cable's conductors were freed by temporarily transferring certain operations being carried on over them to a local control function. They thus managed to switch the necessary signals of the ground control approach radar and the direction-finders to the operating cable of the landing radar. In two hours the work of the approach and landing circle control services was assured. Subsequently the possibility for such a maneuver was perfected.

Thus originated the innovative suggestion for backing up the cable relaying signals to the KDP. To do this they made a special switching device which, when this cable is out, permits an automatic shift of the relay of all signals to the adjacent landing radar cable, and vice versa. The annual economic effect from the adoption of just this one suggestion is 5,000 rubles.

Two other innovative suggestions evoke the greatest interest from among the others aimed at increasing the reliability of radiotechnical resources and dependability of their operation.

KDP senior engineer A. Laonskiy proposed a circuit for an automatic bearing on the work station scope of the landing circle control service. Adoption of this suggestion, in addition to that mentioned above, permits freeing the air traffic controller of superfluous mechanical work and permits him to focus his attention better on the UVD [air traffic control].

The UKV [very high frequency] radio receivers manufactured for command radio communications do not have noise suppressors, which complicates the work of the UVD control point. A brigade of the "receiving center" facility headed by Engineer P. Ksenofontov developed and introduced a noise suppression circuit.

A total of 36 innovative suggestions were adopted at the ERTOS base in 1983, and there were 20 during the first half of the present year.

A requirement to place new equipment in operation and the constantly growing demands on quality and reliability in the operation of radiotechnical equipment very insistently required periodical refresher training and an improvement in qualifications of engineering-technical workers of the ERTOS base. Special classes and technical conferences are held and tests are given on the material studied. A portion of the ITR [engineering-technical workers]

are undergoing refresher training in courses for advanced qualification in the training subunit, in plants and in schools.

The introduction of a new position of senior shift engineer helped improve the efficiency and reliability of production control. Now, in the absence of the base chief at night, the senior shift engineer himself exercises control and makes all decisions to assure faultless operation of all radiotechnical assets.

The high-quality, uninterrupted support of flights and production work of the Kazan air enterprise by radiotechnical assets permits saying with full assurance that landing with a weather minimum is guaranteed! Don't stand still but go forward along the path of technical progress is the motto of the air enterprise's collective. For example, to increase reliability of the light signaling equipment and safety of landings and take-offs it was decided to equip the VPP [runway] with centerline lights. The fact is that this essentially is the first step in the airport's transition to an ICAO Category II, which was not envisaged in the initial plans.

Now all the organization of flying-methods work is aimed at training airship commanders to reduce the landing minimum as the surest guarantee of safety, regularity and economy of flights. Despite the fact that the Kazan Airport still is in the process of construction and is preparing to receive aircraft with an ICAO Category II weather minimum only in the future, appropriately trained crews even now are making such landings at other airfields which already have this category.

6904

CSO: 1829/81

CIVIL AVIATION

IMPROVEMENTS UNDER WAY AT GORKIY AIRPORT

Moscow VOZDUSHNYY TRANSPORT in Russian 4 Dec 84 p 1

[Article by "our" special correspondent V. Deberdeyev, city of Gorkiy: "Efficiency is a Moral Trait"]

[Text] The AIREO [aviation and electronic equipment] laboratory in the new building intended for working with special aircraft equipment is outfitted excellently. It fully meets the most modern requirements and this year successfully passed certification for metrology. It would seem nothing better could be expected.

But here too the inquisitive, imaginative spirit of Gorkiy specialists found ways to improve this production sector and to further increase the quality of periodic technical servicing. For example, technician A. Kuntsev, the best in the profession, suggested that instead of shielding an entire room for checking sensitive radio compasses they should make only a small shielded case. Implementation of this suggestion permitted reducing the number of defects in aircraft equipment because the noise stability in the tests increased many times.

The Gorkiy air enterprise places great emphasis on the development and perfection of the production-technical facility as it has a good understanding of all its social significance for improving passenger air transportation. This of course requires genuine efficiency, socialist enterprise, an increase in responsibility and a thrifty attitude toward the people's wealth.

The Gorkiy people have more than enough of these qualities. The overwhelming majority of the labor collective is distinguished by them, beginning with the aircraft washers and ending with the air enterprise's command-management personnel.

In the air traffic control service, for example, cadre worker V. Pimenov enjoys deserved authority and respect of comrades. While still an air controller he proposed a rotating dial nomogram which makes it possible to quickly and faultlessly determine seven versions of the minimum safe distance between aircraft in executing the maneuver of intersecting an occupied flight level. This nomogram has been recognized as an invention and Pimenov was issued an author's certificate.

And he in collaboration with facility chief V. Manakov developed and made a board kit which permits determining the maximum permissible wind value for the landing of Tu-154, Tu-134, An-24 and Yak-40 aircraft. Such boards, illuminated for nighttime, are installed above the approach, landing and take-off control consoles.

During 1973-1975 the local airport lengthened the VPP [runway] using concrete layers which remained on a rail base during all this work. To assure the uninterrupted work of the airport, A. Korovin, deputy commander of the air enterprise for organization of flight operations, G. Shatresov, deputy airport chief for traffic, senior navigator S. Yevdokimov and others performed special calculations of the glide paths and minimums with consideration of obstacles, and they developed special processing methods and instructions for air traffic control and for interworking with the builders. This assured the possibility, under the very difficult conditions of renovation, of not stopping flights by second and third class aircraft and renewing the traffic of first class aircraft each day...

Today a second runway is being built here designed for receiving aircraft of all types, including the Il-86. This year A. Korovin, commander of the Gorkiy air enterprise, who has headed the collective since 1977, told in the pages of our newspaper about the prospects involving this extensive work and about the labor collective's plans for further development of the material-technical base with consideration for the new runway's operation.

A special fuel line now is being taken to the airport with consideration of these prospects. Two new large tanks will provide timely settling of fuel before it is placed in the aircraft and thus will allow an increase in flight safety.

It should be noted, to the honor of the Gorkiy personnel, that good conditions have been established at the airport not only for receiving large aircraft, but also for the flights of small aircraft. There are two runways here with artificial cover for the An-2.

The creative search truly has become a matter for each person here. Here are a few examples.

The air enterprise is introducing a centralized fueling system. The Gorkiy personnel themselves developed its planning estimates. Today two technical wells remain in operation here, and this year seven aircraft parking areas will be supplied from the TsZS [centralized aircraft servicing].

There was a D-224 blower equipped with a standard aircraft engine in the air-field service. Aviation technician and party group organizer V. Kramarenko, senior ATB [air maintenance facility] engineer V. Maksin and technical department chief A. Kondrakov put the D-30 in its place. Productivity doubled. The successful experiment permitted putting two D-30's on a KrAZ [vehicle produced at Kremenchug Motor Vehicle Plant] chassis. The innovators are thinking about outfitting one other special vehicle of a vacuum-cleaner type.

Thanks to the zealous, truly thrifty attitude by labor veteran and ESTOP [expansion unknown] service chief M. Mishin toward the Svecha-2 light signaling equipment, it has operated for two lifetimes. Now new Svecha-3 equipment is being installed at the airport.

A new type of economic thinking, efficiency and enterprise aimed at further improving work quality is graphically and visibly manifested in all this. And today these qualities are determining more and more the moral make-up of the Gorkiy air specialists.

6904

CSO: 1829/81

CIVIL AVIATION

NEW DISCOVERY IN SUPERSONIC FLIGHT RESEARCH

Moscow IZVESTIYA in Russian 30 Nov 84 p 5

[Article by I. Novodvorskiy: "Discoveries of Our Days: Air of High Speeds"]

[Text] On 29 November 1984 the USSR State Committee for Inventions and Discoveries registered a discovery made by a group of scientists of the NII [Scientific Research Institute] of Mechanics of the Moscow State University imeni M. V. Lomonosov--Academician V. Avduyevskiy, candidates of technical sciences A. Zubkov and K. Medvedev, Candidate of Physico-Mathematical Sciences Yu. Panov and Academician G. Chernyy.

As long as aircraft and gliders were flying at "tortoise" speed, according to present yardsticks, the compressibility and viscosity of air primarily interested mechanical scientists. The fact is that air flowed around the flying craft smoothly and without turbulence. With the appearance of supersonic aviation compressibility and viscosity became very important properties of air also of interest to practical engineers. At high speed the flow-past becomes turbulent and so-called separating flows appear, where vortices and flows of varying configuration separate from a body's surface. By the way, at times one can observe such phenomena even at low speeds, such as when a vehicle moves along a dusty road (it is another matter that the vortices there do not substantially affect the vehicle's movement).

At high speeds the separating flows most often produce an undesirable effect; above all there is an increase in drag.

Science long has been studying separating flows and much success has been achieved, but until recently it was believed that with the supersonic movement of bodies of complex shape so-called stagnant zones form in the vicinity of recesses or behind the body where nothing "fast" happens. The authors of the discoveries succeeded first in detecting experimentally and then in explaining theoretically the formation of strong flows in these "quiet" zones. Interacting with various points on the surface of a flying craft, they exert a strong mechanical and thermal effect on surface material. The consequences of such effects may be mechanical damage and even sections burned through.

An understanding of the essence of this phenomenon helps prevent such consequences. An opportunity now has appeared to calculate rather precisely the force loads and thermal flows on the surface of flying craft. By the way, this discovery also makes it possible to explain more precisely how large meteorites of a complex shape entering the atmosphere at cosmic speeds are destroyed.

6904

CSO: 1829/83

CIVIL AVIATION

BRIEFS

LENINABAD OBLAST TERMINAL--Isfara, Tajik SSR--The airport at Isfara is rightfully considered one of the best airports on the Tajik Administration's local air routes. The collective headed by T. Karimov is successfully coping with the state plan and socialist pledges made in honor of the 40th anniversary of the Great Victory. Construction was begun here recently on a new air terminal complex to meet all current requirements. Excavation and earth moving being performed here at present are very extensive: the main highway which cuts the air terminal off from the ramp and runway must be straightened. Local party and soviet organs are treating this project with great concern, and are doing everything so that erection of the terminal, to have a capacity of up to 35 passengers per hour, is begun more expeditiously. This will be the largest airport for local air routes in Leninabad Oblast. [By A. Khodzhayev, deputy commander of the Leninabad Aviation Enterprise] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 29 Nov 84 p 4] 8936

CHIMKENT OBLAST TERMINAL--Kantau, Kazakh SSR--A new air terminal complex has been put into operation in the city of Kantau, Chimkent Oblast. The runway can accommodate An-24 and Yak-40 aircraft. All the necessary conditions have been established in the terminal building for expeditious passenger service. The spacious waiting room is able to accommodate several hundred persons at one time. Services for them consist of a coffee shop, a room for mothers with children, and newspaper, book and pharmacy booths. Designers of the Kazakh branch of the "Aeroprojekt" institute chose the location for the new airport well. Kantau is a city of republic subordination. The Achisay Polymetallic Combine is located here. It is 15 kilometers from a port well-known in Kazakhstan and Central Asia, the ancient city of Turkestan. Residents of the oblast's nearby kolkhozes and sovkhoses now will be able to make use of air transportation. [By VOZDUSHNYY TRANSPORT correspondent S. Shatan] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 11 Dec 84 p 3]

POLTAVA AIR TERMINAL--A new air terminal complex has been built in Poltava. The location of the technical equipment for serving passengers, the appearance of the rest halls, restaurant, coffee shop and greenery corner evoke appreciation for those who erected this terminal and prepared it to receive passengers. This complex was built by the L. Dovgali brigade of the specialized construction and installation administration Grazhdanstroy of the Poltavapromstroy trust, and the metal structures were installed by workers of the brigade of A. Overyuk. Most of the city's industrial enterprises took a very active

part in the construction project. Experience in building air terminals in Nikolayev and Tallinn was successfully put to use in Poltava. Passenger services consist of Soyuzpechat' booths, a barber shop, an interurban telephone communications branch office, a post office, and storage rooms. By skillfully combining aluminum structures, wood, glass, marble and synthetic materials, artists were able to make the terminal one of the city's most attractive buildings. [By S. Kozub, chairman of the joint trade union committee of the Poltava Aviation Enterprise] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 18 Dec 84 p 3] 8936

KULYAB-SAMARKAND ROUTE--Residents of Kulyab have acquired the opportunity to fly from Dushanbe to Samarkand without transferring. Every day hundreds of the oblast's residents make use of air services. The number of air routes is continuously being increased. This year flights from Kulyab to Leninabad and Tashkent were begun. As far as the route to Samarkand is concerned, it has brought convenience not only for those who fly to visit relatives or for an out-of-town work assignment, but for those who like to travel. On their days off, quite a few workers from industrial enterprises and kolkhozes have taken trips to the ancient city. [By VOZDUSHNYY TRANSPORT stringer A. Shamkhalov] [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 27 Dec 84 p 3] 8936

TU-154M PRODUCTION--Kuybyshev, 27 [Dec](TASS)--Aeroflot is being updated with new improved aircraft. Today the collective of the Kuybyshev Aircraft Plant transferred the first two Tu-154M series aircraft to air transport workers. The airliners have been equipped with engines which consume less fuel than the models turned out previously. This will make it possible to extend the radius of nonstop flights made by the aircraft. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 29 Dec 84 p 1] 8936

CSO: 1829/76

MOTOR VEHICLES AND HIGHWAYS

REPUBLIC MINISTERS ON MOTOR VEHICLE TRANSPORT PERFORMANCE

Report of RSFSR Minister

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 10, Oct 84 pp 1-3

[Article by Yu. Sukhin, RSFSR Minister of Motor Vehicle Transport]

[Excerpts] In striving worthily to meet the 67th anniversary of the Great October and their professional holiday, Motor Vehicle Transport Workers' Day, the Russian Federation's automotive transport workers have developed widespread socialist competition to fulfill and overfulfill plan quotas for the 4th year of the 5-year plan ahead of schedule.

All this promotes increasing labor productivity: perfecting the centralized control system for shipments in the harvest; improving the relationship of motor vehicle transport with enterprises and organizations in agriculture, purchasing, and processing and sales of agricultural products; introducing progressive methods; organizing centralized transport supply for regional agricultural industry complexes; adopting economic-mathematical methods and computers as well as the contract method of working drivers. Carrying out the work permitted a reduction in the quantity of rolling stock enlisted in the harvest by 44,000 vehicles in comparison with 1980, with a simultaneous increase in the volume of transports by 86 million tons.

Container transports of freight are being developed successfully in direct motor vehicle transport service.

The problems of economy and of increasing the efficiency of utilization of energy resources are under the permanent control of the ministry. The reduction of unproductive motor vehicle runs has become one of the trends of work. This year 69 filling stations are being built immediately at automotive transport enterprises, and 108 sites are being equipped for the placement of mobile AZS [filling stations], which will also facilitate fuel savings.

Now the ministry is converting part of its fleet to compressed natural gas. The operation of 1,000 vehicles on compressed natural gas provides a savings averaging 10,000 tons of gasoline per year.

Use of the new fuel increases the range of energy resources in automotive transport and reduces environmental pollution.

One of the important trends in the solution of this problem is further expanding the use of compressed gas vehicles, which require preparation of production-technical bases and personnel on the part of the directors of territorial associations and automotive transport enterprises.

As experience has shown, the introduction of industrial methods of vehicle maintenance, which allow a more rational use of spare parts, the repair fund, and computer technology, is an important resource in improving operation.

Nine production-technological integrated works are presently operating in the ministry's system. It is stipulated that before the end of the 5-year plan 60 more such enterprises for the service and repair of KamAZ [Kama Motor Vehicle Plant] vehicles be put into operation.

Progressive methods of planning and organizing the transport process within the framework of autonomous republics, krays, and oblasts on the basis of a transport balance merit particular attention. For many years in the Sverdlovsk, Chelyabinsk, Gorkiy, and certain other oblasts, the planning of freight transports for the ministries and departments served has been conducted on the basis of a transport balance, which allows the transport needs of the client to be better determined.

This kind of planning in the Sverdlovsk Oblast, for example, allowed 465 vehicles to be freed and 1200 tons of fuel to be saved this year owing to the switching over of part of the freight from departmental transport to common carriers.

Greater efficiency of centralized freight transport is achieved with the organization of complex transport-expeditional services for enterprises. This allows the receivers and senders of freight to be completely freed from such operations as filling out forms, unloading cars, keeping freight in trackside warehouses, loading vehicles, and delivering freight to its destination.

In order to carry out transport services it is necessary to transfer small trackside warehouses, platforms, material resources and service personnel to common carriers with the aim of organizing a single mechanized loading and unloading base. In this way a large number of loaders, expeditors, and vehicles will be freed, and the efficiency of utilization of rolling stock will increase sharply.

At the present time four terminals are in operation in the cities of Pavlovo, Bogorodsk, and Zavolzhye and in the workers' settlement of Pochinki in the Gorkiy Oblast. This has allowed the cost of freight handling to be cut in half, the turnaround time for cars to be reduced from 39 hours to 8.5 hours, idle time during loading operations to be cut to a fourth of the previous level, and the level of mechanization of loading and unloading operations to be increased from 34 percent to 87 percent. This method of client service has been instituted at 18 railroad stations and work is being conducted on its application in other rayons of the Russian Federation.

The Gor'kiyavtotrans association developed a scheme for the complex transport-expeditional service of the Gorkiy Oblast agricultural-industrial complex in 1984-1985, and the oblast soviet executive committee of the Council of People's Deputies obliged rayon and city soviets to develop proposals for the transfer of the rolling stock of small truck fleets to self-supporting automotive transport enterprises.

One of the chief tasks of territorial associations is expanding the sphere of action of common carriers to intercity transports. We know that uncoordinated use of departmental transport in intercity hauls lowers the efficiency of utilization of vehicles and of material and labor resources. Besides, the carrying capacity of highways is reduced, since some of them are literally jammed with departmental vehicles. Thus a significant portion of the rolling stock is sent out on a route without a full load or without any load at all. The interests of the national economy require that intercity freight transports on primary highways be transferred to common carriers. Introduction of the separate elements of transport centralization on the Moscow-Leningrad highway facilitated a 15 percent reduction in the specific weight of departmental vehicle transport.

Centralization in the transport of small lots of freight on the Moscow-Yaroslavl highway increased the efficiency of operation of freight terminals and container platforms.

A relay system of organizing freight transports in intercity service, instituted by the Sovavto-Biysk association, has been successful. It combines the advantages of centralized freight transports in intercity service and the efficiency of a team contract. This method of freight transport is based on the transfer of truck trains on the route from one driver of the contract team to another. The inclusion of repair workers in the contract team reduces unproductive idle time and raises the quality of TO [maintenance] and repairs.

The depersonalization of vehicles is an organizational feature of this method of transport. Working on a single order, drivers and repair workers serve all the vehicles assigned to them. In addition, the organization of relief for drivers and of technical control over the condition of the rolling stock at vehicle transfer points is simplified.

The relay system allows transport time to be reduced to half as long on account of uninterrupted traffic along the route, the rolling stock to be used twice as intensively, and the labor productivity of the drivers to be increased by 37 percent.

Right now in the ministry there are 35 ASU [Automated Control Systems] operating in the organizational-economic area and 15 ASU in the area of technological processes. However, only 15 percent of trucks operating by tariff and 27 percent of buses are included in operative planning and control using computer technology and technological communication facilities.

In a number of territorial associations computer technology is being instituted slowly and used poorly, and the up-to-date experience of the Saratov, Bryansk,

Sverdlovsk, Tatarsk, and Orlovsk territorial associations in applying automated systems for the control of freight and passenger transports is being propagated too slowly. The low level of equipment of branch enterprises with computers is an inhibiting factor in introducing automated control systems in the branch.

The experience of Bryanskavtotrans reveals a potential direction in the use of computer technology for controlling the technological processes of freight transport. The ASU-transport production association has been established here on the basis of an interconnected computer center; it provides planning and organization of freight transports in accordance with the approved plan and the contractual obligations for transport-expeditional service and carries out processing of trip records and accounts with the client for completed transports and with the transport enterprise for vehicles provided.

The party and the government have shown great concern for the satisfaction of the population's demand for passenger transports. In August 1984 the CPSU Central Committee Politburo discussed problems of the further improvement of service for the population and required the corresponding ministries and departments, and the party and soviet organs on site to take decisive measures to bring about the required order and discipline in passenger transport organizations.

The fulfillment of this decision is a most important task for the automotive transport workers of the Russian Federation. The ministry is taking radical measures for the complete satisfaction of the needs of the population.

Every day more than 70 million people use passenger transport services. Bus fleet workers serve 32,000 routes in 1360 cities and workers' settlements, as well as 20,000 central kolkhoz and sovkhoz farms.

During the 11th Five-Year plan 1113 bus routes were set up, including 576 city ones. In the 6 months of this year 54 city, 92 suburban, and 71 intercity bus routes have been opened.

In cities the passenger fleet is supplied with comfortable large capacity buses. At PATP [Passenger Automotive Transport Enterprises] technological communication facilities are being widely introduced which control the regularity of bus traffic on the routes.

More than 5000 special routes have been organized for the transport of workers to construction installations and mines and to the entrances of industrial enterprises. To serve Volga Motor Vehicle Plant workers in the city of Togliatti, the PATP provides 412 large and extra large capacity buses from 7 to 8 a.m.--they deliver 40,000 workers to shop entrances, and after work to the housing area. At an average transport distance of 8.5 kilometers the trip takes 20-25 minutes. Similar transports have been organized for KamAZ workers in the city of Brezhnev and for those at the oxygen machine building plant in the city of Omsk.

Control over the regularity of traffic in 14 cities is accomplished by an automated system of dispatcher control that guarantees bus traffic according to schedules with definite traffic intervals on the routes. Bus drivers' bonuses depend directly on maintenance of the traffic schedule. Institution of this

system in Gorkiy allowed the release factor of buses onto the line to be raised to 0.8, and the number of routes completed to be increased with a simultaneous reduction in intervals.

In 20 oblasts of our republic passenger transport associations, together with soviet executive committees of Councils of People's Deputies, adopted resolutions directed at increasing and strengthening cooperation between automotive transport collectives and industrial enterprises. For example, as a result of the joint work of the collectives of the Norilsk integrated iron and steel works and the passenger ATP [Motor Vehicle Transport Enterprise] two garages, two terminals, and a production block were built. This allowed the organization of efficient transport of workers in the severe climatic conditions of the north and the provision of regular bus traffic, maintaining an interval of three minutes. Passenger transport in Volgodonsk, Staryy Oskol, Cherepovets, and other cities operates similarly.

With a view to perfecting the control system, a complex system of quality control for passenger transports is being instituted in 53 cities in the Russian Federation; it allows ATP directors operatively to obtain information on the operation of all services and executors responsible for the preparation of rolling stock for work on the line, as well as simultaneously to take measures to eliminate deficiencies that arise.

Advanced forms of passenger service are becoming widespread. Right now, as an experiment, long-term transportation tickets are being introduced in Dzerzhinsk and Kalinin, as are passes for the workers to get to the enterprise and back in Kazan.

In comparison with the corresponding period last year passenger turnaround has increased by 3.3 billion passenger-kilometers, income from the transport of the population by taxi-cab grew by 0.4 percent, the production of normative output by 6.2 percent, and the volume of realization of everyday transport services by 8 percent. The basic technical-operational indicators estimating the efficiency of utilization of route buses and taxi-cabs improved as well.

The ministry is conducting a large project on accident prevention in which all automotive transport workers are taking part.

In the first half of this year the measures being taken permitted reductions in the number of killed and injured by 12.7 percent and 3.6 percent respectively in comparison with the same period last year. The number of DTP [Road Transport Accidents] involving buses was reduced by 2 percent, and those involving taxis by 2.5 percent.

However, we still have many deficiencies in operation. According to the results of the first six months, the ministry did not fulfill the plan for freight transports and freight turnaround, and indicators like carrying capacity utilization, output, and technical readiness of vehicles decreased.

Critically evaluating the results of their work on the eve of their professional holiday, the motor vehicle transport workers of the Russian Federation are

taking all measures for the elimination of existing deficiencies and achieving a cardinal increase in the efficiency of operation on the part of branch enterprises.

COPYRIGHT: Izdatel'stvo "Transport", "Avtomobil'nyy transport", 1984

Report of UkSSR Minister

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 10, Oct 84 pp 6-8

[Article by F. Golovchenko, Ukrainian SSR Minister of Motor Vehicle Transport]

[Excerpts] The motor vehicle workers of the Ukraine are mobilizing resources for the successful fulfillment of five-year plan quotas for transport service of branches of the national economy and the population. Today it is important to arm ourselves with the experience of the leading collectives and production innovators, to make it the property of all the branch's laborers, to perfect further the transport process, to increase the quality of transports and the efficient utilization of transport facilities.

The institution of complex transport quality control systems and the efficient utilization of resources occupy an important place in the improvement of operation. At the present time such systems have been instituted at full volume at 105 enterprises. Thanks to this, labor productivity has increased by 2 percent on the average and the cost of transports has been reduced by 0.6 percent.

Every year the number of vehicles used for the transport of agricultural products during the harvest increases. This significantly complicates their operative control as well as the service of other branches of the national economy. This is why it is so important to provide control of the process of harvesting and shipping agricultural output from a single center. In our republic virtually all operative groups and centralized dispatching operations are actually centers of control for the harvest-transport process; in 56 rayons unified centralized control of automotive transport operation, regardless of what department it belongs to, is realized with the aid of computers. The application of advanced forms of organization of the transport process also facilitates the solution of this problem. Having adopted the shuttle method in the transport of beets, the collective of the Fastov ATP [Automotive Transport Enterprise] No 11066 transported 118,000 tons of beets, with a quota of 100,000 tons, in 33 truck trains with interchangeable trailers. The average daily output of one three-ton vehicle reached 38.8 tons, while the seasonal output was 1796.8 tons. As a result, 195 tons of fuel were saved and the economic effect comprised 172,000 rubles. This experiment was approved by the UkSSR Soviet of Ministers and was widely applied. Six hundred truck trains worked by the shuttle method in transporting beets. The application of this method to the shipment of grain resulted in a twofold increase in vehicle output.

The use of highly productive SPS-4.2 beet loaders in complex harvest-transport detachments, brigades, and teams resulted in a twofold increase in the daily output of vehicles and a sharp reduction in the number of transport facilities used. Such detachments were established in the Vinnitsa, Volyn, and Chernivtsy production associations of freight transport, and in the Zhitomir, Kirovograd, Ternopol, Khmel'nitskiy, and Chernigov automotive transport directorates.

In the transport of silage, collectives of Poltava directorate enterprises successfully employed truck trains composed of ZIL-130 vehicles and GKB-817 trailers, the bodies of which were equipped with built-up sides. The use of such truck trains has allowed the drivers of the Globino ATP No 16033, I.I. Marchenko, A.V. Mironenko, and A.N. Vinichenko, to increase the carrying capacity of their vehicles twofold and the daily output by 2.5 times, to eliminate losses of silage during transport, to save up to 30 liters of fuel per shift, and to free 4 workers. In all, more than 50 large-capacity truck trains have worked in the kolkhozes and sovkhoses of the Poltava Oblast this year.

The organization of centralized freight transports in transport hubs occupies a special place in the work of the UkSSR Minavtotrans. The close cooperation of rail, marine, river, air, and automotive transport, according to coordinated technological processes, has been organized at 211 railroad stations, in 13 marine and river ports, and at 17 airports in the republic at the present time. A direct variant of "piggy-back" freight handling, shipping in interchangeable semi-trailers, and loading them at night are widely employed. At the same time, problems of improving cooperation between automotive transport workers and the collectives of other types of transport and the branches of the national economy served by them remain among the most urgent. In order to solve these problems, the interbranch complex scientific-technical program Transport (head organization-- UkSSR Minavtotrans), the realization of which will result in an increase in the quality of transport service for the national economy and the population and an improvement in the coordination and efficiency of all types of transport, is being developed in the republic. Even now, the UkSSR Minavtotrans and a number of scientific-research and production collectives, representing various types of transport, have developed a unified technological process for the operation of the Odessa transport center, the institution of which will allow the establishment of a system of operative planning and control of freight transports at the center on the basis of the coordinated use of information processed by VTs [computer centers] of allied forms of transport. This work will be conducted at other transport centers as well.

The volumes of container and package freight have grown in the republic, and in the cities a complex system of transport, storage, and sale of food-stuffs is being instituted. For example, in Voroshilovgrad a brigade from ATP No 12665, headed by V.P. Kozlov, is successfully carrying out delivery of goods in container equipment. The brigade is working on the basis of a contract agreement concluded by it and the administration of the ATP with the Voroshilovgrad municipal trade control service. The use of hourly rate schedules developed on computers and the realization of functional control of the operation of rolling stock with the aid of radio communications allowed the brigade to transport 1.6 times more freight and increase the output in vehicle-hours by 15 percent and productivity by 12 percent in the last year alone. Drivers' wages have risen as well, and operating expenditures have decreased by 14 percent. A great deal of attention is paid to shipments of grain and baked goods in container equipment in Kiev and in the Voroshilovgrad, Chernihiv, Dnepropetrovsk, Poltava, and Nikolayev and other oblasts.

Ministry enterprises have organized shipments of large-clearance heavy equipment weighing 350 tons and with a length of 45 meters and a diameter of more than 8

meters. Since the beginning of the five-year plan, more than 12,000 units of such equipment have been transported, including 1850 units, with a total weight of 40,000 tons, for the first half of this year.

Our intercity freight transports are developing at a rapid rate. At the present time large-load truck trains accomplish 40 percent of these shipments according to schedules and advanced technology. In this way transport costs are 25-30 percent lower than when they are carried out by departmental transport. Owing only to the institution of advanced technological processes at freight terminals in Odessa, Kiev, Lvov, and Vinnitsa, the utilization factor of a vehicle run increased by 14 percent, idle time was reduced by 17 percent, and the economic effect comprised about 100,000 rubles.

There are more than 280 control-dispatching points (KDP) operating on the republic's highways for loading empty vehicles along the way. More than 500,000 vehicles from various departments were loaded in a year. As a result their empty runs were reduced by 210 million kilometers.

The ministry is taking additional measures for the improvement of passenger transports, the production-technical base of passenger transport is being broadened, the number of transport facilities is increasing and their structure is improving. Their concentration at specialized enterprises with a high level of technical equipment is continuing. Ninety percent of buses and 96 percent of taxis are now concentrated at such PATPs. The specialization of directorates and production associations by type of transport continues.

There has been further development of the control of bus operation on routes in our republic. More than half of the municipal buses are equipped with facilities for inductive feedback "driver-dispatcher". This has permitted a 1.1 percent increase in the traffic regularity factor, which is 0.952 at the present time, including 0.949 on municipal routes. In Lvov the dispatching services for bus, taxi, tram, and trolleybus transport operate out of one location, coordinating the movement of route transport within the limits of the city, which facilitates a significant improvement in transport service for the population.

In the current five-year plan more than 3000 buses are provided for transporting night-shift workers to the entrances of 900 industrial enterprises by the end of the working shift. Agreements for socialist cooperation have been concluded with large industrial enterprises. Express service is being developed. Such a form of operation allows an increase in the bus utilization factor and a reduction in passenger trip-time by 20 percent.

In serving rural localities, primary efforts were concentrated on the further development of transport links between populated points and on increasing reliability and the level of passenger trips. Today 99 percent of central kolkhoz and sovkhoz farms and more than 90 percent of populated points in the republic have a regular bus connection with rayon centers.

For the transport of passengers with agricultural products to the kolkhoz markets of oblast centers and large cities, some of the buses in automotive directorates have been converted to freight-passenger buses. They have written on the body: "For passengers and agricultural products".

In recent years 10 bus enterprises and large motor vehicle terminals have been built in Kherson, Nikolayev, ~~Leporoshne~~, Sumy, Lvov, and other cities. More than 90 percent of the tickets for intercity trips are purchased at motor vehicle terminals and stations. In order to increase the level of passenger service and to reduce lines at ticket counters and time wasted on purchasing tickets, we are widely instituting communication facilities at vehicle stations and dispatcher tracking of buses in intercity service. The number of radio-equipped taxis has significantly increased.

One of the potential directions for the operation of common carriers is the everyday transport service of the population carried out by transport-expeditional enterprises. In our republic 2300 transport agencies and reception points have been established which offer the public more than 50 types of services connected with the delivery of freight to the population as well as expeditional services accompanying passenger transports. In the 10th Five-Year Plan and in 3.5 years of the 11th the network of agencies grew by 670 reception points and the volume of services increased by a factor of 1.7. The average per capita cost of services is 1 ruble 25 kopecks. In the Donetsk, Voroshilovgrad, Dnepropetrovsk, and other oblasts a significant number of reception points has been organized immediately at large industrial enterprises for the convenience of the population.

In 1983 in the branch 64 tasks in scientific-technical developments were completed and the production of 38 new types of industrial output was organized. Work on the application of electrosag welding for the restoration of vehicle parts with a complex configuration is being conducted jointly with the Institute imeni Ye.O. Paton. In conjunction with the republic's special complex program Agrokomples, 30 refrigerated vehicles with nitrogen cooling systems for the transport of perishable products have been manufactured and put into operation. The development and institution of unified technological processes for the transport service of enterprises and organizations of the national economy, directed toward the reduction of transport costs, the economic consumption of fuel and lubricating materials, and the efficient use of rolling stock, continues. The experimental institution of a fuel consumption control system, which has resulted in a savings of 193,000 liters of gasoline and 153,000 liters of diesel fuel has been carried out at 7 ministry enterprises.

Inventors and branch rationalizers have solved a number of problems having national economic and branch significance. Thus, a metalworker from truck convoy No 2196 of the ~~Automotive~~ Automotive Freight Transport Directorate, K.F. Orlov, a lathe-operator from the Odessa STO [Maintenance Station], S.V. Fotti, and a metalworker from the ~~ATP~~ ATP No 30121, F.M. Zan' have each instituted 200-300 rationalizer proposals. Rationalizers at the Dnepropetrovsk Oblast directorate of automotive freight transport have manufactured a 20-ton self-unloading container for the transport of dry and bulk freight, and the rationalizers at the Kiev directorate have manufactured a 10-ton container. These containers are widely used in the branch and increase the efficiency of transport operation.

In all in 3.5 years of the current five-year plan 135 rationalizer proposals and more than 2000 inventions have been developed and introduced into production at ministry enterprises. The savings gained from their use amounts to 60 million rubles. According to the results of the All-Union Public Survey on the use of

inventions and rationalizer proposals, the VOIR [All-Union Society of Inventors and Rationalizers] central council and USSR Goskomizobreteniye awarded the ministry a diploma of the first degree in 1983.

In our work there are also serious problems whose solution depends not only on the motor vehicle workers. For example, an order of allocating requisitions by ministries and departments for freight transport by common carrier must be perfected. It is necessary to establish strict material responsibility for unsubstantiated overestimating of requisitions of vehicles, which complicates the operation of automotive enterprises. The concentration of all intercity freight transports on common carriers results in a substantial increase in their efficiency. The bus fleet should also be concentrated in a common carrier system, where its efficient utilization is much greater. These problems must be solved in close connection with the development of a production base for branch bus enterprises. We need active assistance on the part of a number of ministries in providing automotive transport with modern communication facilities and computer systems for the wide institution of automated facilities for dispatcher control and vehicle transport traffic control in a real time frame, of diagnostic facilities, ticket-printing machines, information installations, and other equipment for motor vehicle terminals.

In order to develop a production base for transport-expeditional enterprises serving the public it is necessary to solve the problems of deliniating their limits and resources in the everyday service branch as well as to enforce regulations pertaining to wages and other benefits afforded by the state to public service, and to regulate planning, accounting, and costs of services.

Besides these problems, we still have many omissions and deficiencies in the operation of subdepartmental directorates, associations, and enterprises, the elimination of which will require increased responsibility, efficiency, and organization on the part of branch workers.

The intense glow of socialist competition to meet the professional holiday worthily, which has spread among the branch's working collectives, inspires certainty that the automotive transport workers of the Ukraine will successfully cope with these problems.

COPYRIGHT: Izdatel'stvo "Transport", "Avtomobil'nyy transport", 1984

Report of KaSSR Minister

Moscow AVTOMOBIL'NYI TRANSPORT in Russian No 10, Oct 84 pp 9-11

[Article by A. Karavayev, KaSSR Minister of Motor Vehicle Transport]

[Excerpts] The results of seven months' work show a unity between obligations and actions of automotive transport workers. Plans for the transport of freight and passengers, the output of industrial production, and transport-expeditional service for the public have been successfully fulfilled. The quota for increasing labor productivity was overfulfilled by 1.2 percent and the cost of freight transports was reduced by 0.6 percent. In the 3.5 years of the five-year plan the plan has been exceeded by 23 million tons of freight transported,

438 million passenger-kilometers completed, 10 million kilometers of paid taxi runs made, and 1.59 million rubles worth of everyday services rendered to the public. Specific measures have been developed at the ATP which are directed toward improving the organization of labor and accelerating the process of putting the achievements of science, technology, and up-to-date experience into production.

Our party and government have set great and responsible tasks for automotive transport workers. At the present time workers, ITRs [engineering-technical workers], and the employees of enterprises and organizations are at work on the elimination of existing shortcomings in operation and the improvement of rolling stock utilization, including a reduction in idle time during loading and unloading operations.

The primary ways that have been developed and are being widely instituted in our production are perfection of centralized transports, complex transport-expeditional service for railroad centers with wide use of convertible trailers and semi-trailers, and the organization of operation by hourly rate schedules developed on computers. At the present time the ministry offers centralized service to 1700 enterprises and organizations, all large railroad stations, river ports and wharves.

We devote constant attention to container and package shipments. For this 12,000 special and universal containers with 3-5-ton weight carrying capacity have been manufactured at subdepartmental enterprises and more than 1000 vehicles have been equipped with gantry unloading cranes and lift gates. As a result, the volume of container shipments has increased by a factor of 5 and package shipments by a factor of 2.5.

This year there have been significant increases in the shipment of freight in specialized containers and container equipment, particularly of baked goods as well as other food stuffs and industrial goods from wholesale bases and enterprises directly into the trade network.

We see significant resources for increasing the efficiency of freight fleet operation in increasing the volume of shipments by trailer. In order to equip automotive enterprises with trailers, the ministry has organized their production at the Alma-Ata automotive repair association No 2. In recent years 25,000 trailers and dump-truck trailers with a load carrying capacity of 6, 10, and 12 tons have been manufactured in all. This has allowed the ATP to be supplied with a trailer fleet at the rate of 120 trailers for every 100 vehicles, which, according to technical conditions, may be used as tractors.

We pay particular attention to the formation of large-load truck trains. For this more than 10,000 KamAZ-5511, KrAZ-256, and MAZ-503 dump trucks have been converted for work with trailers. At subdepartmental ARZs [Vehicle Repair Plants] the production of towing devices, power take-off gear boxes, and hydraulic lifts has been organized. Specialized sections and areas for trailer maintenance and repair have been set up at motor vehicle transport enterprises.

At the present time the freight turnover carried out by truck trains amounts to 65.1 percent, while the utilization factor of vehicle carrying capacity is 1.53.

The ministry is taking decisive measures to curtail empty runs. With this in mind, the role of centralized dispatcher services for vehicle directorates and rayon vehicle enterprises in realizing control of the effective use of the freight fleet, regardless of which department it belongs to, has been increased and the operation of control-dispatching points has been activated.

Inspection of the operation of departmental automotive transport and common carriers is being conducted everywhere. Oblast and rayon soviet executive committees of people's deputies approve the proposals for the rational division of spheres of their activity, taking into consideration the more complete satisfaction of the needs of the national economy for transports and the provision of efficient utilization of vehicles. Since the beginning of this year the measures adopted have allowed a 14 percent increase in the number of vehicles loaded en route.

Organizing drivers' labor according to the team contract method also gives favorable results. At the present time on the whole in the ministry more than 1200 contract brigades are working, which complete 39 percent of the total volume of transports.

Every year the role of common carriers in guaranteeing agricultural production increases. Especially large and responsible tasks have been set before us by the May (1982) Plenum of the CPSU Central Committee, which passed the country's Provision Program outlining specific ways to improve production of agricultural produce and determining measures for the radical improvement of the activity of all branches connected with the production, processing, storage, and transportation of the produce of farming and animal husbandry.

Automotive transport workers make a large contribution to the solution of these problems, providing service for agricultural production, manufacturing and trade organizations, and processing enterprises, and achieving the acceleration of delivery to the consumer and the complete preservation of the products of field and farm.

Equipment for transporting the harvest was checked at the ATP long before the beginning of harvest labor this year. Particular attention was devoted to the strengthening of relations between agricultural and manufacturing organizations on the basis of contracts for labor cooperation and a brigade contract. We developed plans for establishing a harvest transport complex jointly with kolkhozes and sovkhozes.

During the harvest we put the combitrailer and portional systems into wide use for transporting grain, silage, and sugar beets. As a result, vehicle productivity was increased by a factor of 3 and the cost of shipping was decreased by 30 percent. Thanks to a reduction in the idle time of combines waiting for transportation, their output increased by 20 percent. Forty-six thousand trucks and 27,000 trailers participated in the harvest. There were 2600 complex harvest-transport brigades at work in the republic's fields applying the combitrailer and portional systems of shipping. With these brigades one truck delivered an average of 55-60 tons of grain to the threshing floor per working day, which is 3.3 times more than with the usual method of operation.

Drivers delivered grain to 150 elevators in large-load truck trains according to an hourly rate schedule calculated by computer. The organization of a transport-manufacturing process according to mutually correlated 24-hour shift operating plans resulted in the provision of uniform arrival of truck trains at manufacturing points, a significant reduction in rolling stock idle time during loading operations, and the achievement of regularity in the operation of grain-collection enterprises.

The ministry pays constant attention to the further development and perfection of the organization of passenger transports, the construction of new and the reinforcement of the production-technical base of existing vehicle enterprises. In recent years large bus fleets have been put into operation in Tselinograd, Temirtau, Ekibastuz, Pavlodar, Taldy-Kurgan, Dzhetygar, Lisakovsk, and Arkalyk, a taxi fleet in Chimkent, 16 vehicle terminals, and 130 vehicle stations.

Since the beginning of the current five-year plan 700 new bus routes have been opened, including 230 in rural localities. Today the total length of the route network is 423,000 kilometers. Buses transport 9 million people daily.

The republic has 300 vehicle terminals and stations, and more than 1000 cashier points. Last year in Alma-Ata a comfortable vehicle terminal was built and an automated system for dispatcher control of bus transports (ASDU-AP) was put into service. Analogous systems are being developed in Karaganda and Ust-Kamenogorsk.

In order more completely to satisfy the demands of the republic's populace for passenger transport, the ministry has developed and realized a complex of measures directed toward the further increase of volume, the development and reinforcement of the production base, the expansion and perfection of the route network, and an increase in the responsibility of PATP workers in fulfilling quotas.

In the current five-year plan there are projected the organization of regular bus service in 400 more populated points, the opening of 1570 permanent, seasonal, and special routes, and the construction of 6 vehicle terminals and 30 rayon vehicle stations.

Transport-expeditional service for the public is continually improving in the republic. In the current year 9.3 million transport-expeditional services will be rendered to the population of the republic, costing 17.4 million rubles, which is 7 percent more than last year's level.

We have developed measures directed toward increasing volume and types of services, expanding the network of agencies and reception points, and satisfying the demands of consumers for shipments of fuel, furniture, household goods, and agricultural products to kolkhoz markets, etc.

At 19 enterprises, at agencies, and at reception points (we have more than 1000 of them) training is constantly being conducted among order takers, agents, cashiers, and loaders that is directed toward improving the level of public service. The operating regime is being put in order everywhere, centralized dispatching points are being established at transport agencies, and at large enterprises complex points are being set up to take orders for all types of services.

Systematic growth in the technical level of production, reduction of manual labor, and improvement of working and living conditions for workers are essential factors for the further increase of labor productivity.

At the ATP 184 TsUP [expansion unknown], 495 maintenance lines, 1143 stations for the repair of vehicle assemblies and systems, and 219 stations and lines for instrumental diagnostics have been equipped.

We pay particular attention to the perfection of the economic mechanism, to the wide institution into production control of computer technology and modern communication facilities, and to the improved utilization of labor, material, and financial resources.

There are plans to build filling stations at all large ATPs. Type designs for filling stations that can accomplish 250 and 150 re-fuelings per 24-hour period have been developed through the efforts of KazNIPIAT [as published] [Kazakh Scientific-Research and Design Institute for Automotive Transport]. The production of tanks with a capacity of 5-25 cubic meters has been organized at the Semipalatinsk ARZ [Vehicle Repair Plant]. At the present time filling stations are being equipped at 37 ATPs.

In the matter of securing economical fuel consumption, we are devoting a great deal of attention to the dieselization of the fleet and to the operation of vehicles on liquefied and compressed gas. Thus, the specific weight of freight turnaround for diesel vehicles ministry-wide has grown from 41 to 62.1 percent since the beginning of the five-year plan. In Alma-Ata almost 2000 trucks and taxis are operating on liquefied gas. In the current year more than 400 vehicles in the Alma-Ata, Chimkent, and Dzhambul oblasts will be operating on compressed natural gas.

The measures being taken have resulted in positive shifts in fuel economy. The following figures attest to this: with a 15.6 percent increase in the volume of transport operations for 1981-1983, fuel consumption (in a relative calculation) has increased by only 0.6 percent. Thus specific fuel consumption is reduced by 12.9 percent, while absolute gasoline consumption in freight shipments is lessened by 18 percent. For 9 months of this year the specific consumption of gasoline decreased, as opposed to the corresponding period of last year, by 2.6 percent, and the specific consumption of diesel fuel by 4 percent.

Guaranteeing reliable accounting and preventing the addition of uncompleted volumes are important directions in our operation. Thus, in order to eliminate additions in the transport of small-lot and technological freight we have sharply increased the use of trucks that operate on the basis of hourly pay, in spite of the fact that the productivity of these vehicles is twice as low as those that operate on a by-the-job basis. In the transport of massive loads of a non-manufactured character (soil and others), miners' rages have begun to be widely used.

The introduction of computer processing of goods-transport documentation, providing strict logical control over more than 260 parameters, including average speed between stops, order time, fuel consumption, idle time during loading operations, and the correspondence between vehicle trip length according to

transport documents and speedometer readings are essential measures for preventing figure padding. Throughout the ministry 60 percent of goods-transport documentation is processed by computer.

Positions have been established in ATP staffs for economist-controllers to verify freight documents. Work has been intensified to bring about the proper order in speedometer management, to supply enterprises with time-clocks, and to control transport distances. Collation of freight transport volumes with book-keeping data from the enterprises and organizations served is being realized at the ATPs. All departments and large clients have been sent the corresponding letters of instruction. True, much remains for us to do in this area.

It is necessary to concentrate our attention on unsolved problems and, primarily, on the utilization of all production resources and on the improvement of the work of enterprises and organizations that lag behind.

At the present time the ministry is directing its organizational work toward guaranteeing the stable regular fulfillment of quotas and toward increasing the efficiency of competition. For the fourth year of the five-year plan motor vehicle workers have taken on great obligations and are full of determination to execute them successfully and to do everything possible to satisfy the transport needs of the national economy and the public.

COPYRIGHT: Izdatel'stvo "Transport", "Avtomobil'nyy transport", 1984

12461

CSO: 1829/62

MOTOR VEHICLES AND HIGHWAYS

NEW FAMILY OF ZIL TRUCKS TO REPLACE ZIL-130 SERIES

Alma-Ata AVTOMOBIL'NYY TRANSPORT KAZAKHSTANA in Russian No 10, Oct 84 pp 28-29

[Article by D. Glukhovskiy and V. Leonov, engineers from the MosavtoZIL Association: "Vehicle Builders' Long-Range Model"]

[Text] At the end of 1983 the CPSU Central Committee Politburo approved the USSR Council of Ministers' proposal on the organization of production of diesel trucks at ZIL [Moscow Motor Vehicle Works imeni Likhachev] and GAZ [Gorkiy Motor Vehicle Works]. A new family of trucks called (according to the base model) ZIL-4331 has been developed and is being readied for production at the motor vehicle works imeni I.A. Likhachev in order to carry out this resolution. They are designed for operation in truck trains with a total mass of up to 23.5 tons.

The new family of trucks should replace the ZIL-130 family in the national economy, which, together with trucks from the Gorkiy works, makes up the primary truck fleet of the country at the present time.

On the whole, the design of the vehicles has been mastered now. Experimental production of the ZIL manufactured more than 30 prototypes, which were tested on flat and mountainous terrain in all the climatic zones of the country. In 1980 an interagency commission, with the participation of user organizations, conducted multilateral acceptance testing of the family and recommended the ZIL-4331 and ZIL-4421 tractors for production. Now work is proceeding at full speed on operational development of the design, introduction of changes according to the recommendations of the commission, and the further improvement of the vehicle's performance.

Composition of the ZIL-4331 Family of Tractors

As far as platform area utilization among trucks of the ZIL-130 family, the ZIL-130G, with a 4500 millimeter base, recommended itself. The ZIL-4331, which has become the basic one of the new family, has this same wheel base. This allows a larger part of freight to be transported more rationally, thus increasing the stability of the vehicle and, consequently, increasing the speed.

It is natural that the loads being transported by motor vehicle transport be extremely various. In order to satisfy users' demands for the rational transport

of any freight, vehicles with 5600 millimeter (ZIL-4332) and 3800 millimeter (ZIL-4333) wheel bases and platforms designed for the transport of light and heavy freight respectively have been included in the new family of trucks.

Besides this, the ZIL-4331 family of vehicles includes the ZIL-4421 fifth-wheel tractor, the ZIL-4506 agricultural dump truck, the ZIL-4507 construction dump truck, and chassis for specialized bodies and assemblies. The fifth-wheel tractor and the construction dump truck in the new family have a wheel base of 3800 millimeters, while their analogs in the ZIL-130 family have a wheel base of 3300 millimeters. This has been done primarily for a smoother ride, for the comfort of the driver and passengers.

A design for vehicles with gasoline engines has been developed in the new family. These engines have been modernized considerably in comparison with those being produced at the present time. The precombustion chamber-fuel spray process of igniting the fuel mix will be used in them, which will permit the savings of a significant quantity of fuel, owing to the operation of the engine on lean air-to-fuel ratios.

Advantages of the New Family of ZIL Vehicles in Comparison with those in Production

With growth in the volume of automobile transports more and more significance accrues to the economy of transport facilities in the broadest sense of the word. There are quite a few ways of reducing the cost of transports. And all of them were taken into account in the designing of the ZIL-4331 family of vehicles.

The new family will have trucks with diesel engines, the capacity of which was selected from a calculation of 7-8 horse power per 1 ton of total truck-train mass. In conjunction with a multiple-ratio transmission, this will allow an increase of approximately 10 percent in average speed which will also provide a great economic effect.

Increasing the load-carrying capacity of truck trains provides a great savings. For the ZIL-4331 truck, the load capacity of the trailer has been increased from 5.5 tons to 6-8 tons while retaining the load capacity of the tractor.

In comparison with ZIL-130 vehicles, the labor input for service for the new vehicles has been decreased along with a simultaneous increase in the distance run between servicings. The run between TO-1 [maintenance-1] is supposed to be carried out to 4000 kilometers (instead of 2500 kilometers for the ZIL-130), between TO-2 to 16,000 kilometers (instead of 12,500 kilometers). The number of lubrication points has been cut almost in half, and the service of a number of assemblies is simplified.

Much has been done to increase the life of the new vehicle. The projected increase in its original life is up to 400,000 kilometers (as opposed to 300,000 kilometers for the ZIL-130).

Recommendations that increase active and passive safety have been taken into account in the design of the new trucks. Among them should be noted those that have not previously been used on ZIL vehicles: visibility has been significantly

improved, there exist greater opportunities for regulating the boarding of the driver, a soft covering has been adopted for the instrument panel as well as a dual-spoke dished steering wheel, it is possible to install seat belts, and the braking mechanisms have automated regulation of the clearance between the braking block and the cylinder. Like the ZIL-133GYa vehicles (with diesel engines), the new family will be equipped with signal lights that meet the strictest international standards, independent brake controls for the front and rear wheels, emergency and auxiliary brakes, and a brake-delay mechanism in the exhaust system.

In the design and testing of the trucks, particular attention was devoted to the problem of retaining enough "vital area" in the cabs in DTPs [highway accidents] Witnesses of truck accidents obviously have noted that when a vehicle overturns (depending on the circumstances) the cabin roof is often crushed down to the level of the hood, and there is no space for the driver and passengers. The new cab has been reinforced to prevent significant deformations if the vehicle overturns or is involved in a collision, or if there is forward displacement in an accident.

COPYRIGHT: "Avtomobil'nyy transport Kazakhstana", 1984

12461

CSO: 1829/80

MOTOR VEHICLES AND HIGHWAYS

PERFORMANCE CAPABILITIES OF URAL-5557 AGRICULTURAL TRUCK

Moscow AVTOMOBIL'NYY TRANSPORT in Russian No 10, Oct 84 pp 42-44

[Article by Chief Designer A. Romanchenko, Chief of the Ural Motor Vehicle Works Design Bureau S. Antonov and Candidate of Technical Sciences G. Krestovnikov (NAMI): "The Ural Agricultural Truck"]

[Text] In fulfilling the goals of the Food Program, the Ural Motor Vehicle Works imeni 60-letiya USSR, with the assistance of the Central Scientific Research Institute of Motor Vehicles and Motor Vehicle Engines (NAMI), a number of organizations of the sector and related production facilities, developed the Ural-5557, an industrial transport dump truck with high cross-country capability (6X6) for agriculture and has begun producing it. The body has two-way dumping.

The new motor vehicle model's purpose placed several specific tasks before the designers. First of all, they had to ensure high performance, fuel economy and profitableness of the truck in transporting agricultural freight under various road and field conditions. In addition, it had to be able to operate in conjunction with the most diverse agricultural machinery and be suitable for regular operation with a trailer. A very important aspect of operating an agricultural motor vehicle is that it must compact and disturb the fertile soil layer as little as possible.

Considering the experience of operating all-wheel drive Ural motor vehicles and the specific nature of agricultural transportation, the carrying capacity of the Ural-5557 is set at 7 tons (by comparison, the carrying capacity of the Ural-4320 is 5 tons). A truck and trailer combination comprised of this truck and a GKB-8551 trailer can carry 14 tons of freight. Under constant operation under difficult road and field conditions, it is recommended to use another trailer, the model GKB-8535 trailer with a carrying capacity of 5.5 tons. The gross weight of the Ural-5557 is 16.16 tons and that of the trailers is 11.5 and 9 tons respectively.

The overall dimensions of the Ural-5557 are shown in one of the figures. Its maximum height is determined by the deflector baffle, necessary when loading green bulk, hay and other such freight using a combine. The loading height of the Ural-5557 at floor level of the dumping body is 1495 mm, 2345 mm at the level of the main sides and 3155 mm at the removable extensions. Such

dimensions ensure integration of the vehicle with the necessary agricultural harvesting machinery.

The Ural-5557 has a wheelbase of 3525 + 1400 mm, a wheel track of 2020 mm, a ground clearance of 340 mm and a turning radius of 10.8 meters at the center of the outer front wheel track.

The Ural-5557 has a 154-kW (210-hp) KamAZ-740 diesel engine which is equipped with an electric flame primer and preheater making it easier to start in the winter. The cooling system is filled with Tosol-A 40 coolant.

The truck uses a double-disc, mechanical drive clutch. A pneumatic booster decreases clutch pedal force. The KamAZ-141 is a mechanical, 5-speed transmission. Displacement of a number of gear ratios into a lower range (from 5.62 to 0.724) increases its durability, especially when operating under difficult road conditions. All gears, other than first and reverse, are equipped with synchronizers. A power take-off with a hydraulic pump to operate the dumping unit is installed on the transmission. Control of it is electropneumatic, key-actuated from the driver's cab.

The transfer box from the Ural-4320 was used in the design of the Ural-5557. It is a triple-shaft, two-stage transfer box with continuous engagement of the front axle via an asymmetrical, spur interaxial differential with positive gear-locking. The gear ratios of the transfer box are 1.3 and 2.15. Under difficult road and field conditions, it is recommended to operate in the lower gear of the transfer box. The main drive has a gear ratio of 8.05. Disk joints of equal angular velocities are used in the front wheel drive.

The engine with its systems and the transmission are practically completely standardized with the corresponding assemblies of other UralAz models.

The powerful engine and transmission with a large scale of gear ratios provide the Ural-5557 with an operating speed range of 2-75 km/h. This enables it to perform efficiently on roads (with or without a trailer) and also to travel in synchronism with agricultural harvesting machinery.

The truck has high tractive characteristics. It can negotiate grades with up to a 50 percent slope (26.5 degrees) without a trailer and up to a 27 percent slope (15 degrees) with a trailer. Its fuel economy is also fairly high; its test fuel consumption is 30-31 liters per 100 km at 50 km/h.

The Ural-5557 has wide-profile 1200X500-508 tires with air pressure adjustable between 0.15 and 0.35 MPa (1.5 to 3.5 kgf/cm²). By using these tires, the vehicle's center of gravity is lowered which provides good stability in transporting small-volume weight agricultural freight. By changing the tire pressure, it is possible to obtain minimum rolling resistance and high fuel economy during highway travel and to decrease the disruptive effect on soil on dirt roads and plowed ground.

Optimization of the tire pressure increases the agricultural Ural's cross-country capability and tractive characteristics by 30-60 percent under difficult road and field conditions. For travel over hard-top roads

(highways), dry compacted dirt roads and under similar conditions, it is recommended that the tire pressure be 0.35 Mpa (3.5 kgf/cm²). Recommendations for regulating tire pressure depending on the road and field conditions are indicated on a chart located on the dashboard, as well as in the operating instructions that come with each vehicle.

The adjustable pressure system may be used to inflate tires which are punctured, thereby minimizing the need to immediately change the tire. This enabled the designers to eliminate placing a spare tire in the vehicle and to increase the capacity of the body by 15 percent.

The Ural-5557's high carrying capacity required reinforcement of its frame, rear suspension and front-axle kingpin assemblies. Operating safety of the Ural-5557 truck is ensured by using an effective steering hydraulic booster, a two-circuit running brake system with combined compressed-air and hydraulic brake control (broken down into pneumatic and hydraulic parts), an auxiliary motor brake and a parking transmission brake with mechanical control. Traffic safety is also furthered by modern instrument lights, effective windshield wipers, sun visors, windshield washers, forced-air windshield defrosters and larger rearview mirrors. The Ural-5557's front suspension is on two semi-elliptic leaf springs with shock absorbers and the rear has balanced suspension.

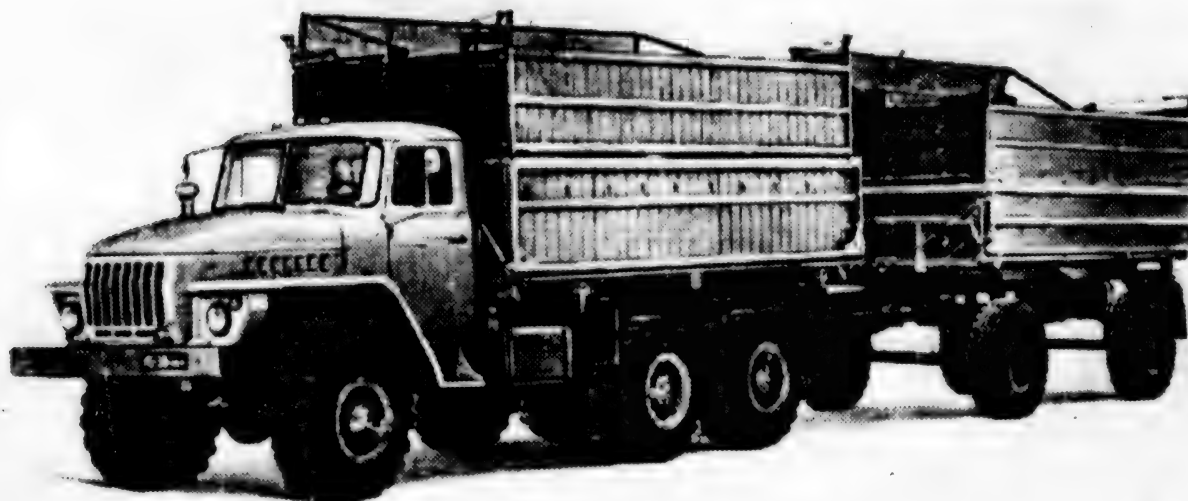
The body of the agricultural dump truck is mounted on an underframe on which the hydraulic lift cylinder and and hydraulic equipment components are attached. During unloading the base side forms a continuation of the flat floor of the body and the extensions, opening by means of a mechanical drive, form a wide opening for dumping the freight.

Tests have shown that such a design of the vehicle and trailer bodies practically precludes agricultural products being unloaded from falling under the wheels and ensures complete unloading of the body. Through the latticed side extensions (front and rear), it is easy for the driver to control the unloading.

The design of the body and side joints practically eliminates losses of bulk freight during transporting. The size of the truck bed is 8.8 m³ without the side extensions and 18 m³ with them. The dumping angle (to the left and right) is 50 degrees.

The Ural-5557 is a multipurpose agricultural vehicle. Besides the dumping body, equipment can be installed on it for spreading mineral fertilizers. In so doing, a second pump, model NSh32U-L-2, is installed on the dependent power takeoff case and an additional power takeoff case with a step-down reduction gear is mounted on the transfer case. While spreading fertilizer, the truck can travel at a speed of up to 30 km/h over a field.

The Ural-5557's improved interior, adjustable driver's seat, convenient positioning of instruments and controls and keyboard electropneumatic system to control lifting and lowering of the truck and trailer bodies and also to close their sides decrease driver fatigue considerably. This is especially important during seasonal work which demands increased attention and stress.



Agricultural Dumping Truck-Trailer Combination Comprises of the Ural-5557 All-Wheel Drive Truck and the GKB-8551 Trailer

Engine..... KamAZ-740 V-8 Diesel
 Power rating..... 154 kW (210 hp)
 Top speed..... 75 km/h
 Carrying capacity, kg:

Truck..... 7,000
 GKB-8551 trailer 7,000
 GKB-8535 trailer 5,500

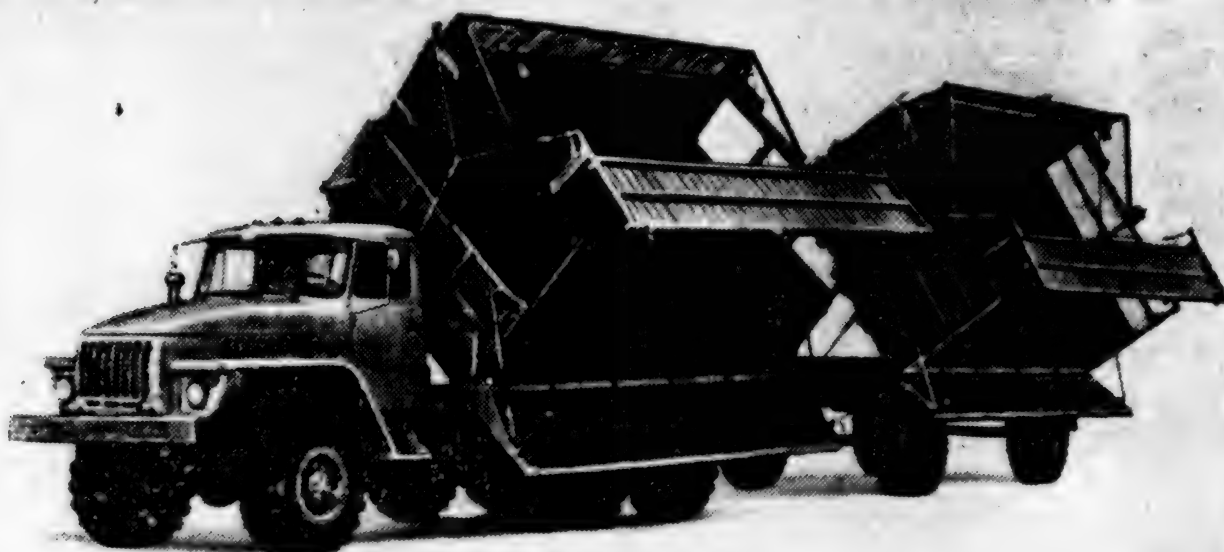
Overall dimensions of truck-trailer
 combination, mm: 15388 X 2500 X 3555

Gross weight, kg:

Truck..... 16,160
 GKB-8551 trailer.... 11,500
 GKB-8535 trailer.... 9,000

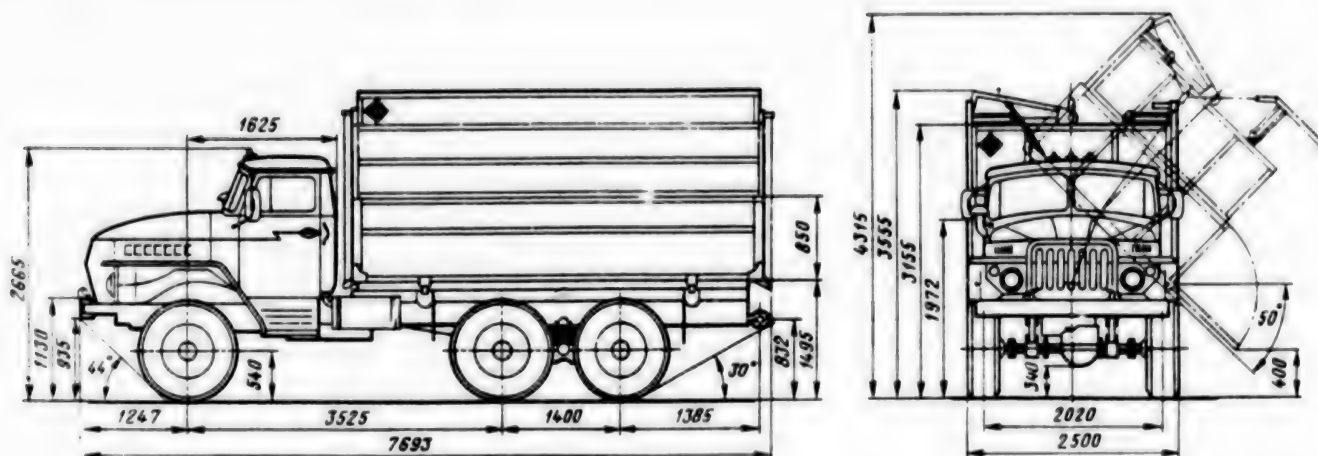
Volume of body with extension
 sides and baffle plate, m³:

Truck..... 18
 Trailer..... 15.8





The Ural-5557 with equipment for spreading mineral fertilizers



Basic dimensions of the Ural-5557 dump truck

The results of comprehensive tests and an evaluation of the engineering level showed that the agricultural Ural-5557's high performance is achieved owing to an efficient design, optimum power rating, ten-speed transmission with an interaxial center differential and wide profile tires with adjustable air pressure.

Thus, the industrial-transport, all-wheel drive Ural-5557 truck is well-suited for hauling agricultural products from fields, transporting mineral and organic fertilizers and for other agricultural work under combined or difficult road and field conditions.

It is precisely under these conditions that it is most effective (especially when operating with a trailer) and has considerable advantages in rough-road

performance, capacity and fuel economy over the ZIL-MMZ and KamAZ dump trucks without all-wheel drive which often require the assistance of tracked tractors to negotiate the most difficult areas. The country's agricultural workers received the Ural-5557 dump trucks already in late 1983.

COPYRIGHT: Izdatel'stvo "Transport", "Avtomobil'nyy transport", 1984

12567

CSO: 1829/63

RAIL SYSTEMS

DUTIES OF RAILWAYS MINISTER, DEPUTIES, COLLEGIUM ASSIGNED

Moscow GUDOK in Russian 18 Jan 85 p 2

[Announcement: "In the Ministry of Railways: On the Distribution of Responsibilities Among the Minister, Deputy Ministers and Members of the Ministry of Railways Collegium"]

[Text] Order No 1Ts, dated 15 January 1985, distributes the responsibilities among the minister, his first deputies, deputies and members of the collegium. The responsibilities have been distributed in a way calculated to ensure the proper combination of production and official functions, to prevent duplication of effort and to achieve maximum effectiveness in the activity of the collegium and the entire central apparatus of the Ministry of Railways.

Minister of Railways N. S. Konarev manages the work of the ministry as a whole. He determines the basic directions of railroad transport development and of a unified technical policy, and he deals with matters related to improvement of the sector's organizational structure and administrative systems. He maintains contacts and practical cooperation with other ministries and departments, and he coordinates the activity of the sector's industries. He heads the ministry's Scientific and Technical Council. He leads the Soviet section of the CEMA Permanent Commission on Cooperation in the Field of Transportation.

Directly subordinate to him are the Economic Planning Main Administration, the Finance Administration, the Business Affairs Administration, the Staff Organizational Department, the Legal Department and Arbitrator, the Letters Department and the Auditing Department.

First Deputy Minister V. N. Gin'ko manages all operational work of the railroads and main administrations. He sees to the fulfillment of state plan assignments for shipping. He carries out measures to perfect the shipping process and to improve the coordination of work with other sectors of transport. He deals with matters related to the planning and efficiency of shipping. He determines the basic directions of the activities of the Ministry of Railways main administrations and railroads in realizing programs aimed at developing the rail network and its technical potential. He exercises control over and carries out measures to improve the work of industrial railway transportation, commercial work, estimates and accounting in the sector.

He coordinates the activities of the deputy ministers in matters for which he is responsible. He is a first deputy chairman of the Scientific and Technical Council.

Directly subordinate to him are the Railway Traffic Main Administration, the Container Transport and Commercial Work Main Administration, the Industrial Railway Transportation Main Administration, the Accounting and Bookkeeping Administration and the Armed Security Administration.

First Deputy Minister F. I. Shuleshko manages all economic work of the Ministry of Railways and the organization of the maintenance and upkeep of basic assets. He organizes the fulfillment of assignments in developing production capabilities and in improving the sector's structure and systems of administration. He exercises control over and takes measures to fulfill current and long-range plans for creating new technology and introducing it into production.

He ensures a high level of organization in passenger transport, in light of requirements by the party and government for its further improvement and regulation. Within his purview is the coordination of actions taken by the main administrations and railroads to organize passenger food services in rail dining cars and in station restaurants. He takes measures to ensure rail traffic safety, to increase technical equipping and improve the work of means of repair, and to strengthen technological discipline.

He deals with matters related to construction, material and technical supply, and the practical and routine needs of central apparatus workers. He oversees projects of current and long-range plans for the economic and social development of railroad transport and for scientific and technical programs, and he exercises control over their fulfillment. He carries out measures aimed at the improvement of economic indicators and at a strict adherence to a policy of economy in the utilization of labor, material, financial, fuel and energy resources.

He exercises control over the work of operating subway systems and of those under construction, and he takes measures to improve their work and to ensure the timely completion of new lines and stations.

He coordinates the activities of the deputy ministers in matters for which he is responsible. He is a first deputy chairman of the Ministry of Railways Scientific and Technical Council.

Directly subordinate to him are the Passenger Main Administration, the Material and Technical Supply Main Administration, the Lines Main Administration, the Subways Main Administration, the staff of the Traffic Safety Main Inspectorate and the Economic Administration.

Deputy Minister and Chief of the Railway Traffic Main Administration V. N. Butko manages the organization of the shipping process and the improvement of the rail-car distribution system. He coordinates the activities of the ministry's administrations and railroads in the routine planning and execution of operational work, and in the fulfillment of daily and monthly shipping plans.

In carrying out work in the development and technical outfitting of traffic operations, he bears the responsibility for the work and leisure of the locomotive brigades.

Deputy Minister B. D. Nikiforov manages the work aimed at keeping the shipping process supplied with electric and diesel locomotives, freight cars and passenger cars with regard to improving their maintenance and repair and increasing their operational reliability. He handles questions regarding the supply of railroad transport with fuel and power supplies, and also regarding the stable functioning of electric power supply systems. He supervises questions of plan fulfillment by plants for rolling stock repair and spare parts production, and of satisfying the requirements of other ministries and departments for railroad rolling stock repair.

Directly subordinate to him are the Locomotives Main Administration, the Railroad Cars Main Administration, the Rolling Stock Repair and Spare Parts Production Main Administration and the Electrification and Power Resources Main Administration.

Deputy Minister A. N. Bevzenko manages the elaboration of plans and programs for the development of railroad transport, as well as for the technical and technological upgrading of the shipping process and all transport production. This ensures the effective application of capital investments to the proportional and complex development of all aspects of railroad transport, to the forced introduction of advances in science, equipment and progressive experience, and to the creation of scientific, technical and production potential, thereby permitting us to keep pace with the ever-growing volume of freight and passenger transport. He exercises control over and takes measures to improve the work of signals and communications installations, electrotechnical plants, computer centers and automated control systems, as well as of the development of inventions, improvements and the advancement of standardization and metrology. He coordinates and controls the work of the deputy chiefs-chief engineers of the Ministry of Railways administrations and railroads, and he directs the activities of the scientific and experimental institutions, as well as of the project and design organizations in the Ministry of Railways system.

He is a deputy chairman of the Ministry of Railways Scientific and Technical Council, and the chairman of the Ministry of Railways Permanent Commission on Prices.

Directly subordinate to him are the Technical Main Administration, the Signals and Communications Main Administration, the Computer Technology Main Administration, the All-Union Scientific Research Institute of Railroad Transport and the Main Computer Center.

Deputy Minister G. Kh. Savchenko manages capital construction in railroad transport in accordance with the plans for its development and the improvement of social conditions for railroad workers. He controls the work of Ministry of Railways administrations in ensuring the financing of capital construction projects.

Within his purview are matters regarding the development and strengthening of the production base of line construction organizations and the improvement of the effectiveness of their work, as well as matters regarding environmental protection.

Directly subordinate to him are the Capital Construction Main Administration, the Design of Railroad Transport Facilities Main Administration, the Examination of Designs and Estimates Administration and the Civil Structures and Water Supply Administration.

Deputy Minister and Chief of the Lines Main Administration B. A. Morozov manages the development and maintenance of the railroad track system, which guarantees the safe and uninterrupted movement of trains at established weights and speeds and, therefore, the fulfillment of plans for the movement of goods and passengers.

Deputy Minister and Chief of the Material and Technical Supply Main Administration G. M. Korenko organizes and ensures material and technical supply at the levels required to fulfill assignments for the movement of freight and passengers.

Within his purview is control over the proper and efficient utilization and preservation of material resources. He bears the responsibility for coordinating the work of motor vehicle transport and for fulfilling the plans for the delivery of ferrous and nonferrous metal scrap.

Deputy Minister V. P. Kalinichev directs railroad transport labor policies aimed at increasing the effectiveness of operational and economic activities, and he is in charge of matters relating to the creation of the social conditions most favorable for the highly productive labor of railroad workers. He coordinates the activities of Ministry of Railways administrations, railroads, enterprises and railroad transport organizations in resolving social questions and organizing athletic and physical fitness activities. He is in charge of the development of subsidiary agriculture at the sector's enterprises.

Directly subordinate to him are the Personnel Administration, the Medical and Sanitation Main Administration, the Educational Institutions Main Administration, the Worker Supply Main Administration and the Labor, Wages and Industrial Safety Administration.

Deputy Minister V. S. Kolpakov bears the responsibility for representing the Soviet side in questions of economic, scientific and technical cooperation in the field of transport among CEMA nations. He has control over the implementation of decisions made regarding such issues and of bilateral agreements between the USSR and socialist countries. He exercises control over the fulfillment of assignments for the shipment of export-import and transit freight on international routes, and over the work of border and port stations.

Directly subordinate to him is the International Railway Traffic Administration.

Members of the Collegium P. I. Bortsov, V. A. Volkov, V. I. Kalashnikov, P. I. Kel'peris, Yu. A. Tyupkin, G. P. Chernykh and V. A. Shevandin, besides the direct management of the administrations and their own personal responsibilities for fulfilling the tasks assigned to them individually, render concrete assistance to other main administrations and railroads in ensuring stable operational work, fulfilling plans for economic and social development, strengthening discipline, ensuring rail traffic safety and handling other aspects of their activities.

COAL HAULING SHORTFALL FOR 1ST HALF OF NOVEMBER

Moscow GUDOK in Russian 14 Nov 84 p 1

[Article: "Don't Break a Link in the Conveyor Belt!"]

[Text] For the coal conveyor this winter has begun in an alarming fashion. For the first 12 days of November the plan for loading has fallen short by almost 720,000 tons, and the additional assignment--by 1,100,000 tons. A lag of more than 700,000 tons is primarily the fault of the colliers of the Kemerovo Railroad, and 287,000--those of the Krasnoyarsk Railroad. The chiefs of a number of controlling railroads are, to a large extent, just as much to blame for such a serious situation in which these two very important coal-carrying mainlines find themselves.

A particular lack of discipline has been shown by the following persons: the chief of the West Siberian Railroad, V. Nikolayev, who has tolerated the failure to unload 4,420 gondola cars, the acting chief of the South Urals Railroad, M. Kokurin (a failure to unload 1,470 gondola cars), the chief of the Alma-Ata Railroad, K. Kobzhasarov--1,160. The weak links in the controlling flow have turned out to be the Transbaykal, East Siberian, West Kazakhstan, and Kuybyshev Railroads. The situation demands the most decisive measures for radically improving the feeding of the loading resources of the Kemerovo and Krasnoyarsk Railroads so that they may make up the lag.

A rather difficult situation has taken shape on the Tselin Railroad. Because of unsteady work by the Ekibastuzugol' and Karagandaugol' Production Associations, this railroad fell short of carrying out its assigned task by 106,000 tons. In the last three days this situation has been corrected, and the average daily unloading of fuel has exceeded the assigned quota. It is necessary to maintain this pace in order to eliminate the backlog.

The results of coal hauling on the Donetsk Railroad are gratifying. Although there were shortcomings in the first few days here with regard to loading, today this railroad is fully coping with the plan assignment. This became possible thanks to the adoption during the second five-day period of measures designed to increase the sending of empty gondola cars here. The task is not to weaken the attention paid to the Donetsk Basin. Still in its "debt", however, are the traffic chiefs of the Odessa Railroad, who failed to deliver 3,030 gondola cars in accordance with the controls, the Moldavian--1,020, the North Caucasus--730, the Azerbaijan--350, and the Transcaucasian--260.

The loading of coal must be stepped up more actively on the North Caucasus, Transcaucasian, Kuybyshev, Central Asian, Sverdlovsk, East Siberian, Transbaykal, and Baykal-Amur Railroads.

2384

CSO:1829/51

RAIL SYSTEMS

MID-NOVEMBER COAL HAULING FIGURES CAUSE CONCERN

Moscow GUDOK in Russian 21 Nov 84 p 1

[Article under the rubric "GUDOK Monitors Fuel Shipments": "Fulfilling the Obligation Sooner"]

[Text] The operation of the fuel conveyor improved somewhat in the second 10-day period of November. The daily average for coal loading rose by 44,100 tons. Outshipments of coal by the Donetsk Railroad continue at a rapid rate. In the first 19 days of November the railroad dispatched 215,000 tons above plan to its clients, overfulfilling its supplementary assignment by 82,000 tons. The South-eastern Railroad is likewise successfully coping with shipments of Donetsk coal. The haulage of coal by the Moscow, Northern and Lvov Railroads continues to increase.

However, a number of railroads are experiencing significant interruptions in fuel shipments, and on a few of them the situation has even worsened. From the beginning of the month the system as a whole is behind schedule on coal haulage by 863,000 tons. If the additional assignment is included as well the lag stands at 1,535,000 tons.

An especially alarming situation has developed on the Kemerovo Railroad, which is behind schedule on coal shipments by almost a million tons. The main reason is that not enough coal is being presented for haulage by Kuzbass producers. True, there are encouraging signs - over the last two days, applications for haulage space have come close to the mean daily assignment.

The second 10-day period has witnessed a marked rise in the volume of fuel shipped out by enterprises of the Krasnoyarskugol' Production Association. However, it is too early for the leadership of the Krasnoyarsk Railroad to rest content. It must work hard to ensure that coal is shipped out every single day strictly according to plan.

Outshipments of coal by the Tselin Railroad are as slow as they have been. The Ekibastuzgol' and Karagandaugol' Production Associations have failed to deliver for shipment over the first 20 days of the month 104,000 and 82,000 tons of their output, respectively. Car demurrage on the sidings of the Ekibastuzgol' Association is 3.1 hours over the norm. This leads to enormous difficulties in the organization of traffic on circuit coal routes.

True, in the last few of the 10 days in question coal shipments from Ekibastuz have stepped up significantly. From 17 November to 19 November its arrears were reduced by 43,700 tons. Outshipments of coal have neared the daily loading assignment at the enterprises of the Karaganda basin as well.

Efficient interaction with coal enterprises has yet to be achieved by the Odessa, Central Asian, Sverdlovsk, East Siberian, Transbaykal, Far Eastern and Baykal-Amur Railroads. The experience of past years indicates that in the last 10 days of November the amount of coal readied for loading tends to increase, primarily in the Donbass, Kuzbass and Ekibastuz areas. Naturally, this will necessitate clockwork precision in supplying the mines of these basins with gondola cars.

Nevertheless, the number of empty gondolas presently being provided by the most important regulating railroads is below plan. The largest deficit has been allowed to develop by the West Siberian Railroad - 3,400 gondolas short of the norm since the start of the month. For the Odessa Railroad the figure is 3,300 cars, for the Moldavian - 1,900 cars, for the Alma-Ata - 1,690 cars, for the Belorussian - 1,670 cars, for the South Urals - 1,235 cars, for the Lvov - 1,210 cars, for the South-western - 1,150 cars, for the Azerbaijan - 1,060 and for the Far Eastern Railroad - 760 gondolas. The East Siberian and Transbaykal Railroads have taken 1,330 and 410 gondolas, respectively, off coal haulage and are using them for other purposes beyond prescribed limits. The management of all these railroads must take immediate measures to liquidate the arrears in coal shipments that have accrued.

12258

CSO: 1829/70

RAIL SYSTEMS

COAL HAULING PROBLEMS CONTINUE IN DECEMBER

Moscow GUDOK in Russian 12 Dec 84 p 1

[Article under the rubric "GUDOK Monitors Fuel Shipments": "A Plan Increase Is Binding"]

[Text] In the first days of December the fuel conveyor slowed down significantly. This stemmed from shortcomings in the way a number of railroads had prepared for the winter. Subzero temperatures and snowstorms caused a decline in operations on the railroads of the Urals, Siberia and Kazakhstan. The ensuing reduction in unloading meant less empties being available for the Kuzbass, Ekibastuz, Karaganda and the Krasnoyarskugol' Production Association. Moreover, less coal was readied for loading by the mines.

The result of all this was that in the first six days of the month coal loading for the railway network as a whole fell below the target figure by 3,800 cars a day. The situation improved markedly in the final days of the 10-day period, and the daily figure for onloading came close to the norm.

The weightiest contribution was made by the Donetsk Railroad. In December it shipped 396,000 tons to clients above plan, or 210,000 tons over the additional assignment. This success was made possible by efficient deliveries of empties to the Donbass by way of the regulation process, as well as by a high level of unloading by the railroad itself, a level which exceeded the technical norm by 360 gondolas a day. The tempo achieved must be maintained.

Running ahead of plan are the October, Moscow, Lvov, Southeastern, East Siberian and Transbaykal Railroads.

On the other hand, the Kemerovo, Tselin and Krasnoyarsk Railroads have run up a large deficit. The first two managed to increase onloading from 6 to 9 December, but 10 December saw another decline in volume. On that day the Kemerovo Railroad undersupplied 460 cars for coal haulage and another 617 were left unused by the mines and pits. The Tselin Railroad fell short of deliveries to Ekibastuz by 2,607 and to Karaganda by 879 cars. The coal producers themselves declined the services of 765 and 1,448 cars, respectively.

There has been no breakthrough as yet in the matter of coal loading on the Krasnoyarsk Railroad. The debt is now close to 250,000 tons. Still inadequate is the railroad's utilization of gondolas. Offloading lags behind the turnover assignment by 409 cars per day, and a surplus of 2,900 transit gondolas has developed.

Coal haulage is below plan on the Northern Railroad (-57,000 tons), the Central Asian (-40,000 tons), the North Caucasus (-13,000 tons), the BAM (-13,000 tons), the Sverdlovsk (-8,000 tons) and the Far Eastern Railroad (-2,000 tons).

To make up for the deficit in the matter of supplying the national economy with fuel, the Ministry of Railways and the USSR Ministry of the Coal Industry have handed down increased assignments to the railroads and coal associations for the remaining days of December. For the expanded target figures to be met, urgent measures must be undertaken to improve operations, sustain a high level of technical reliability, increase offloading volumes and strengthen distribution discipline.

Many railroads are not meeting their assignments for the return of empty gondolas to distribution. The largest deficits have been allowed to develop by the West Siberian Railroad (3,720 gondolas), the Northern Caucasus (1,850 gondolas), the Alma-Ata (1,840 gondolas), the Central Asian (1,780 gondolas), the Odessa (1,340 gondolas) and the South Urals Railroad (1,030 gondolas).

12258

CSO: 1829/70

1ST LINE OF VOLGOGRAD 'METROTRAM' OPENS

Moscow GUDOK in Russian 10 Nov 84 p 4

[Article by A. Venetsianov: "The Volgograd 'Metrotram'"]

[Text] In the hero-city of Volgograd on the eve of the 67th Anniversary of the Great October Revolution a high-speed streetcar system, the "younger brother" of the metro, was put into operation. The lines of its first phase stretch for a distance of 13.5 kilometers.

Back in 1971 the first to arrive for work on this facility were specialists of Installation Train No 820 of the Privolzhtransstroy Trust. They performed all the surface operations. The SMP-820 track-installer brigades headed up by I. Mel'nikov and V. Oreshkin laid the rails on the right-of-way and installed the guardrails. Also working here successfully were specialists of Bridge Detachment No 57 of the Postovoy-3 Saratov Trust and those of the Construction-Installation Train No 806 of the Transsignalstroy Trust. Proceeding to work later was Tunneling Detachment No 31 of the Khar'kovmetrostroy Construction Administration.

On 5 November the Volgograd "Metrotram" took on its first passengers. The first to open its doors was the most beautiful underground station--the "Ploshchad imeni V.I.Lenina". This is one of the largest single-span structures in the history of our country's underground transport construction. The color range of this station's interior is diverse and festive; large stained-glass panels complement the over-all architectural solution. Its theme is "Victory Salute."

Already waiting for the guests at the platform was a train, consisting of modernized, tandem-type T-3 streetcars of Czechoslovak manufacture. In a matter of seconds the train reaches a speed of 30 kilometers per hour. The train takes half an hour to cover the route, which has 18 stations (three of which are underground).

Within a few minutes we are at the "Komsomolskaya" Station. This station differs to good advantage from the columnar-type stations of metros in other cities by the dimensions of its hall; its height amounts to 4.7

meters. Six thematic panels, made of hammered copper are devoted to the history of the Komsomol.

The underground section ends at the "Pionerskaya" Station. It reminds one of the "Leninskiye gory" Station of the Moscow Metro. Artists and sculptors from Kharkov and Volgograd worked on its artistic format.

For the time being this high-speed streetcar system will have 28 trains running at three-minute intervals. The cost of the trip is three kopecks. The "metrotram" will be serviced by 360 persons. In the future six- and eight-axle streetcars will be running here.

We should merely add that the first passengers were taken on this run by the best motorman of the streetcar-trolleybus administration, P. Chebotarev.

2384

CSO: 1829/51

RAIL SYSTEMS

2ND LINE OF TASHKENT METRO OPENS AHEAD OF SCHEDULE

Tashkent PRAVDA VOSTOKA in Russian 7 Dec 84 p 4

[Article by A. Irinin: "The Trains Start Rolling Today"]

[Text] The first passenger train will pull out of the new metro station "Tashkent" at 6:30 p.m.. The second line of the Tashkent Metro was built in the record time of four years - 14 months ahead of schedule - something never before achieved by the country's metro builders.

Only this morning the underground facility was quiet and deserted, but come evening it will turn into a hive of human activity. The metro has become an integral and familiar part of the life of Tashkent residents. One by one we make the rounds of the stations on the new line. The "Tashkent" Station, with its strict and solemn aura, is the underground gateway to the city. Then there is the radiant "Aybek" Station, whose design achieved all-union and even international recognition when the facility was still under construction. Next down the line is the "Prospekt Kosmonavtov" Station, a structure reminiscent of a spaceship. One of the handsomest subterranean palaces is the "Uzbekistanskaya" Station, with lights that look like glittering cotton bolls popping open. The "Navoi" Station is memorable for the intricate openwork of its dome, a picture straight out of an Eastern fairy tale.

"For us the construction of the second line is a milestone," says Pavel Vasil'yevich Semenov, director of the Tashmetrostroy Construction Trust. "I regard the finished job, accepted by the state commission with an 'excellent' rating, as evidence of our collective's maturity, the maturity of every unit and subdivision directly involved in the construction of the second line: the workers of the 2nd Tashkent Reinforced Concrete Plant, the Gazalkent Stone-Processing Combine, the artists, the personnel of many subcontractor organizations. We metro builders have become a more cohesive collective. We adopted and assimilated many progressive methods during the four years of construction. Thus, 94% of all construction and installation work was carried out using the integrated flow-line brigade method.

All difficulties were overcome, and in four years there were quite a few of them. Construction of a transfer point from the existing line to the one being built was carried out on the leg between the functioning stations of "Druzhba Narodov" and "Pakhtakor." Especially complicated were the drivework operations under the "Pakhtakor" Station.

The "Aybek" Station was built of fundamentally new assemblies never before used in the Soviet Union. The site of the "Uzbekistanskaya" Station was awash in subsoil waters, and these had to be pumped out. In a word, listing all the obstacles we encountered would simply take too long. So today is a red-letter day for all those who took part in the construction of the second line.

12258

CSO: 1829/70

RAIL SYSTEMS

USSR, PRC MINISTERS DISCUSS MUTUAL RAILWAY INTERESTS

Moscow GUDOK in Russian 24 Oct 84 p 4

[Article by L. Il'ina: "Meeting of Ministers at the Ministry of Railways"]

[Text] At the Ministry of Railways a meeting occurred between the USSR minister of railways, N. S. Konarev, and the PRC's minister of railways, Chen Puru, who was passing through Moscow after participating in the 12th Session of the OSZhd [Railroad Cooperation Organization] Ministerial Conference. The meeting was attended by the PRC's ambassador to the USSR, Yang Shou-zheng.

During the course of the conversation there was an exchange of opinions regarding the questions of improving the organization of railroad hauls of passengers and freight between the USSR and the PRC back and forth, as well as the development of mutually advantageous scientific and technical cooperation. The two sides emphasized the fact that, in connection with the increase in the foreign-trade turnover between the two countries, railroad transport is being presented with new tasks.

The Chinese minister stated that in 1983 China's railroads hauled 1,200 million tons of freight and 1,100 million passengers. This means that the steel mainlines account for 60 percent of the total volume of transport operations. Some 3 million persons are employed in the system of the PRC's railroads. The total length of the network is 52,000 kilometers, but it needs to be expanded and modernized in order to meet the requirements of the economy. Also in need of modernization is the locomotive pool, 70 percent of which today consists of steam locomotives. Great importance is now being ascribed to developing this sector as a top-priority component of the national economy. Of particular interest to Chinese railroad workers is the Soviet experience of handling heavyweight freight trains; the average weight of trains in China now amounts to 2,200 tons.

The meeting took place in an atmosphere of mutual understanding and business-like cooperation.

During the time of his stay in Moscow the PRC's minister of railways and the specialists accompanying him visited the Lenin Mausoleum, the Grave of the Unknown Soldier, and the Kremlin. They paid a visit to the Central Scientific-Research Institute of Information, Technical-Economic Research and Propaganda of Railroad Transport; they also became acquainted with the operation of the Moscow Metro and the services provided for passengers at stations.

2384
CSO: 1829/51

RAIL SYSTEMS

BRIEFS

NEW DIESEL TRAIN TESTED--Under the supervision of Candidate of Technical Sciences L. Filipov, tests are being conducted on the A4-2 diesel train. It was built by the Czechoslovak Studenka Car-Building Plant. Equipment for the A4-2 has been supplied by the following three CEMA member countries: the Soviet Union, Czechoslovakia, and the GDR. Recommendations of the scientists will be taken into account in making the transition to serial production of these new diesel trains. The A4-2 has been designed for operation under complex conditions of utilization, with alternations in the air temperature ranging from -40° C to $+40^{\circ}$ C. [Text] [Moscow GUDOK in Russian 18 Oct 84 p 2/ 2384]

ODESSA METRO--Leningrad--The first line of the Odessa Metro, approximately 15 kilometers in length, will connect the center of the city with the rapidly developing northern residential area in the region of the Kotovskiy settlement. Eight stations will be built here at a considerable depth, and they have been given such provisional names as the following: "Privokzal'naya," "Deribasovskaya," "Pionerskaya".... The "Ulitsa Suvorova" Station will be a transfer point. Subsequently the underground right-of-way will be extended to the southern part of the city and will comprise 32 kilometers. In working out the technical-economic basis for the construction of the Odessa Metro, the specialists of the Leningrad Metrogiprotrans Institute carefully studied the hydro-geological conditions of the future rights-of-way. "These conditions are very similar to those which have been encountered under the ground by the builders of the Leningrad Metro," says the chief planning engineer, Yuriy Vladimirovich Yukhov. "Therefore, the Odessa Metro will be built much like that of Leningrad. For example, the stations, like those in Leningrad, will be executed in a single-vaulted manner and made of reinforced concrete." [By S. Krayukhin] [Text] [Moscow NEDELYA in Russian No 44, 29 Oct--4 Nov 84 p 4/ 2384]

AGRYZ--KIZNER SECTION ELECTRIFIED--On the southern course of the Gorkiy Railroad traffic has been opened up for electric trains on yet another section, this one extending 112 kilometers from the Agryz Station to the Kizner Station. A large amount of work was carried out, 370 kilometers of lines included within the contact network were installed, more than 100 switches were connected into the electric centralization system, and seven ETs [electric centralization] posts were built. At the Agryz Station alone 720 contact-network poles have been installed. [By Yu. Aleksandrov] [Text] [Moscow GUDOK in Russian 11 Nov 84 p 1/ 2384]

USSR--CSSR RUN INAUGURATED--Bratislava, 1 Nov (TASS)--The last preparations have been completed in the small city of Velke-Kapusani for the ceremonial inauguration of the first train to start out on the new railroad mainline leading to Uzhgorod. Today the builders of the run, who have turned it over for operation two months ahead of the deadline in honor of the 67th Anniversary of the Great October Revolution, will take part in opening up the new border run between Velke-Kapusani (CSSR) and Uzhgorod (USSR). The putting into operation of this new border railroad complex constitutes an important event in the life of the Soviet Union and Czechoslovakia, as well as that of the other CEMA countries. This is one more line of friendship, marking the implementation of the statutes of the Comprehensive Program for Socialist Economic Integration, which will allow us to significantly speed up the through-flow of various national economic goods passing across the Soviet-Czechoslovak border. The Velke-Kapusani--Uzhgorod railroad run is of great importance for the enterprises of Slovakia's major industrial center--the city of Kosice--and, in the first place, the Eastern Slovakian Metallurgical Combine, to which the Soviet Union sends raw materials, fuel, and various other types of materials. [Text] [Moscow GUDOK in Russian 3 Nov 84 p 1] 2384

CAR-REPAIR PLANT IN NIZHNEUDINSK--A large-scale car-repair plant is under construction in Nizhneudinsk. It has been designed to renovate several thousand units of rolling stock per year. This enterprise is being built by a subdivision of Vossibtransstroy. Construction has begun on the main, three-span building, and the foundation for the framework of the everyday service section and the boiler-room has been laid. Work is proceeding on the sub-station, the cleaning facilities and the drainage facilities for draining the swampy soil. Start-up of the first phase is planned for 1986. [By V. Seseykin] [Text] [Moscow GUDOK in Russian 11 Nov 84 p 1] 2384

URENGOY--YAMBURG LINE STARTED--Igarka--The task of laying the first kilometers of rails on the new Urengoy--Yamburg Railroad Line has been completed. This new steel right-of-way, with a length of 230 kilometers, will pass through complex regions of permafrost. The transport builders are faced with the task of pouring out 15 million cubic meters of earth and building 36 bridges. The river-transport workers of the Ob-Irtys United Shipping Company are confronted with the task of delivering to the northern mainline under construction tens of thousands of tons of various cargoes. By the end of the current year it is planned to have laid 40 kilometers of the new railroad, to build a station and a residential settlement at its first siding. [By G. Vstavskiy, special correspondent] [Text] [Moscow VODNYI TRANSPORT in Russian 11 Nov 84 p 4] 2384

NEW TE-136 DIESEL LOCOMOTIVE--Voroshilovgrad--Greeted by applause from a large crowd gathered for the meeting, test department locomotive engineer Ye. Pustovoy was presented with a symbolic key to the TE-136 diesel locomotive. This festive occasion at the Voroshilovgradteplovoy Production Association marked the completion of assembly of the most powerful (6,000 hp in one section) line locomotive in our country. Incorporated in the TE-136 are the latest achievements of world locomotive building. It is equipped with the most advanced mechanisms, such as traction motors of increased reliability and an improved AC-DC power supply system. This giant of the railways was created by the locomotive builders of Voroshilovgrad in collaboration with the Elektrot'yazhmash Plant in Kharkov and the Kolomna Diesel Locomotive Plant. It is intended for use in the most diverse climatic zones of the country, including the BAM region, and it is capable of pulling consists of over 10,000 tons. Bon voyage, six thousander! [By V. Mikhaylichenko] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 14 Nov 84 p 1] 12258

TEM-2U SWITCHER IN PRODUCTION--Bryansk, 10 Nov--Series production of a new diesel switching locomotive has begun at the Bryansk Machine Building Plant Association. The TEM-2U can handle consists of up to 4,250 tons. Designers equipped it with a special mechanism that softens the impact of coupling. This not only protects the cars from damage, but also train formation to proceed faster, thus significantly increasing the railroad workers' productivity. The designers also provided better working conditions for the engineer. An optimal microclimate is maintained at all times in the cab, which is lined with a material which is both cold and heat resistant. [By PRAVDA stringer M. Atamanenko] [Text] [Moscow PRAVDA in Russian 11 Nov 84 p 1] 12258

CLIMATE LABORATORY PROJECT--The USSR State Committee for Science and Technology has approved a proposal by the Power Engineering Department of the All-Union Scientific Research Institute of Railroad Transport to build on the institute's experimental test track at the Moscow region station of Shcherbinka a climate laboratory-chamber with all the special mechanisms required for testing isothermal rolling stock, locomotives and cars. They have drawn up the technical requirements for the design of such a multipurpose climate laboratory-chamber. The temperature in it can fluctuate from -60°C (for conditions in the BAM area) to +70°C (for conditions in the southern sections of the Central Asian Railroad). When put into operation, such a unique complex will reduce by about two thirds the time it takes to incorporate the newest technology into production. [Text] [Moscow GUDOK in Russian 20 Nov 84 p 2] 12258

NEW LENINGRAD PASSENGER DIRECTORATE--The USSR Ministry of Railways has decided to create a Directorate for Passenger Transport in Leningrad. The volume of passenger traffic on the October line is constantly growing. It is especially heavy in the Leningrad railroad hub. "The current procedures in the matter of readying and equipping trains for the road, whereby the services involved act on their own, and consequently not always promptly and efficiently, can no longer satisfy us," said V. S. Truskov, deputy chief of the October Railroad's Railcar Service. "The creation of the new enterprise will allow all these subdivisions to be merged into one, thus enhancing their responsibility for high-quality service to passengers of long-distance trains." The directorate will incorporate the car servicing subdivision, the line laundry service, the repair and outfitting depot and the car section of the Leningrad-Passazhirskiy-Moskovskiy Station, as well as collectives of reserve conductors at the car depots of Leningrad-Passazhirskiy-Vitebskiy and Leningrad-Varshavskiy stations. [By P. Slavin] [Text] [Leningrad LENINGRADSKAYA PRAVDA in Russian 20 Nov 84 p 1] 12258

AUTOMATIC BLOCK SYSTEM OPERATIONAL--Rovno--The lights of a new automatic block system have come on on the 160-km stretch of line from Zdolbunov through Rovno and Sarny to Goryn. This welcome present was provided to the operators of the Rovno Division of the Lvov Railroad by the collectives of three enterprises: the Rovno Construction Administration No 3, Construction and Installation Train No 802 of the Belorussian Railroad and Power Supply Train No 754 of the Odessa Railroad. It offers new opportunities for accelerating the passage of freight along an important main line linking the Ukraine with Belorussia and the Baltic republics. [By A. Khuka] [Text] [Moscow GUDOK in Russian 8 Dec 84 p 2] 12258

INTERNATIONAL RAILROAD COMMUNICATIONS CONFERENCE--The Signals and Communications Main Administration of the USSR Ministry of Railways, together with the Central Administration of Scientific and Technical Societies, held a conference in Moscow on the subject of "Expanding the use of modern radio communications equipment in railroad transportation." Taking part in it were specialists from socialist countries: Bulgaria, Hungary, the CSSR and the DPRK, representatives of the Ministry of the Communications Equipment Industry, the railroads, the All-Union Scientific Research Institute of Railroad Transport and educational institutions. The conference heard reports on new models of communications equipment developed by scientists and designers from industry and railroad transport. It also reviewed the technology used to manufacture new radio equipment and present-day methods of servicing the communications hardware currently in use. Specialists from Bulgaria, Hungary and the CSSR shared their interesting experiences. The conference drew up a set of recommendations calling on all members of science and technology societies to play a most active role in improving communications equipment and to ensure its flawless manufacture by industry as well as its rapid absorption and efficient operation by the transportation sector. [Text] [Moscow GUDOK in Russian 9 Dec 84 p 1] 12258

CSO: 1829/66

MARITIME AND RIVER FLEETS

BRIEFS

NEW OCEAN REEFER--(TASS)--The new ocean reefer "Kamchatskiy Proliv", built at the Nikolayev Shipyard imeni 61 Kommunar has been sent off on its first voyage. [Text] [Moscow PRAVDA in Russian 11 Oct 84 p 2] 12151

NEW TUGBOAT DESIGN DEVELOPED--Gorkiy--The plan for a new tugboat, designed to tow two barges, was developed at the Vympel Central Design Bureau. Gorkiy designers developed this tugboat especially for operation on Siberian rivers. The possibility of its egress to shore maritime regions of arctic seas was provided for as well. These "river trains" will begin to transport various construction materials--rubble, gravel, reinforced concrete items and pipes--which are used in the development of the Yamburg gas condensate deposit in the Arctic. The tugboat has two engines, each with 700 horsepower. The load capacity of the two barges is up to 6000 tons. The vessels are provided with a special hull-plating icebelt. Several interesting innovations have been used in the structure of the tug. For example, a special device for the steering system gives the vessel high maneuverability. The living quarters in the superstructure have been installed on special shock mounts, which reduce the harmful effect of noise and vibration. [By IZVESTIYA correspondent A. Yershov] [Text] [Moscow IZVESTIYA in Russian 15 Oct 84 p 2] 12151

AIR CUSHION PASSENGER VESSEL--Astrakhan--A passenger ship using an air cushion, the "Luch-2", built by the shipbuilders of the Astrakhan Ship Repair and Machine Shipyard imeni Uritskiy, left for a trial run. This vessel is from a series of new motorships, which will come to the country's small and lateral rivers to replace the "Zorya" and the "Zarnitsy". The "Luch-2" will be registered at the Kostromskiy port. [By VODNYY TRANSPORT correspondent V. Meshalkin] [Text] [Moscow VODNYY TRANSPORT in Russian 11 Nov 84 p 1] 12151

ALL-PURPOSE FREIGHT BARGE--The ship builders of Petrikov have turned over for operation the next dry-cargo canopy barge. It is the sixth barge of the new type and can be used to transport grain, flour and vegetables. When necessary the products will be transported in containers. The design for the dry-cargo canopy barge, developed by specialists of the Planning and Design Bureau of BSSR Glavrechflot, has no analogies in domestic shipbuilding. [Text] [Minsk SOVETSKAYA BELORUSSIYA in Russian 13 Nov 84 p 2] 12151

HYDROFOIL PASSENGER VESSEL--The Poti Ship-Repair and Shipbuilding Yard has developed the output of a new generation of hydrofoil passenger vessels of the "Kolkhida" type. The first such vessel was received at the Black Sea Shipping Company. "These ships are designed for operation on interport lines with points up to 200 miles away," says Group Engineer-dispatcher of the Passenger Fleet Administration of the Black Sea Shipping Company, Sergey Vladimirovich Stasevich. "They are more spacious than the 'Kometa'--the three lounges of the 'Kolkhida' have space for 140 people, and there is a reliable air conditioning system. The vessel makes 35 miles per hour, is more stable in rough seas and has high-quality maneuverability." The "first-ling" is successfully completing high-speed runs--Odessa-Kherson-Odessa. In the future there are plans to transfer the "Kolkhida" to service on the Odessa-Yevpatoria-Sevastopol line, and in the long-range future--Odessa-Varna. [Text] [Moscow VODNYI TRANSPORT in Russian 15 Nov 84 p 2] 12151

ALL-PURPOSE LO-RO FREIGHTER LAUNCHED--The fourth all-purpose freighter of the modern "lo-ro" series, with a displacement of 18,000 tons, has been launched at the Warnemunde dockyard. The ship, destined for the Soviet Union, was christened the "Kremenchug". It can receive on board both bulk and piece cargoes. The GDR shipbuilding industry is increasing its rates every year. This year alone the republic's shipbuilders are building 72 marine and coastal vessels with a total displacement of 400,000 tons. Some 60 of them are destined for the Soviet Union, which is the largest foreign customer. Over 5000 vessels of 170 different types have been built in the GDR during the years of socialism, by orders from beyond the border. Ships marked "Made in the GDR" ply other seas and oceans under the flags of over 50 states in the world. The largest dockyards in Warnemunde, Wismar, Stralsund and Wolgast have modern equipment. At present 15 different types of vessels are launched at them, many of which were the fruit of the close cooperation of the GDR and USSR shipbuilders. New types of vessels and extremely important types of equipment are being developed through the combined efforts of specialists of the two countries. Long-term planning ensures success in implementing programs of specialization and cooperation between the CEMA member countries in the sphere of shipbuilding. [Text] [Moscow VODNYI TRANSPORT in Russian 20 Nov 84 p 1] 12151

SIBERIAN RIVER DRY-CARGO SHIP--Gleaming with fresh paint, the brand-new dry-cargo vessel of the "Amur" type rocks gently at the berth of the dockyard in the Slovakian city of Komarno. The ship has been commissioned, and awaits being sent off on a long journey to the Siberian river shores. "This ship is one of a large series of vessels with a cargo capacity of almost 3000 tons being built at Komarno especially for the Soviet Union," says Dockyard Chief Engineer I. Paule. "Before the end of 1985 the flag of the Soviet Union will be raised on another 10 similar dry-cargo vessels. In the next five-year plan, the USSR river fleet will be supplemented by 30 vessels of this type, designed for operation under the complex climatic conditions of the northern regions of the USSR." Socialist economic integration and Czechoslovak-USSR cooperation--these words are turned into reality at the dockyard in specific acts and plans of the almost 5000-member collective of the Komarno shipbuilders. This is not surprising, for after all, in the last 35 years, there have been launched

from the dockyard slips 470 passenger, cargo and technical vessels, built for the largest customer--the USSR. The scale and long-term nature of the soviet orders make it possible for the shipbuilding yards to keep pace with scientific-technical progress and constantly modernize and improve the production program. [Text] [Moscow VODNYY TRANSPORT in Russian 1 Dec 84 p 1] 12151

LARGE-TONNAGE SIDE-LOADER--Leningrad (TASS)--The large-tonnage motorship "Donetsk" has augmented the country's commercial fleet. This vessel, with side-loading and side-unloading was turned over to the purchaser--the Azov Shipping Company--at the A. A. Zhdanov Shipyard one month before the deadline. The shipbuilders reported the fulfillment of one of the important items in the commitment of the workers of Leningrad and the oblast for 1984. [Text] [Moscow VODNYY TRANSPORT in Russian 6 Dec 84 p 1] 12151

REEFER FOR CUBA TRADE--(TASS)--A reefer, named after A.Ya. Pel'she, the distinguished official of the Communist Party and the Soviet State, has arrived at Ventspils. The vessel, built by Polish shipbuilders, is preparing for the first Transatlantic voyage for the navigation route USSR-Cuba-USSR. The ship "Arvid Pel'she" is designated to transport fruits and other food cargoes. [Text] [Moscow VODNYY TRANSPORT in Russian 6 Dec 84 p 1] 12151

CSO: 1829/68

COLLEGIUM URGES FASTER RIVER PORT CONSTRUCTION IN SIBERIA

Moscow VODNYI TRANSPORT in Russian 1 Sep 84 p 3

[Report on session of the RSFSR Ministry of the River Fleet Collegium]

[Text] The collegium at its session reviewed the course of construction and of preparations to commission the underway complexes of pier projects in Nadym, Urengoy and Krasnoyarsk. Reports were presented by deputy chief of the Ob-Irtysh United Shipping Company S. Shuster and deputy chief of the Yenisey Shipping Company S. Igolkin who apprised the collegium of preparatory measures to commission the underway complexes. During the ensuing discussion it was pointed out that the management of both companies has still not achieved close cooperation with contractors in the pier-building process and has fallen behind on the construction of the underway complexes.

In the determination handed down the collegium of the RSFSR Ministry of the River Fleet instructed the leadership of the Ob-Irtysh United Shipping Company together with the construction trust Zapsibgidrostroy of the USSR Ministry of Transport Construction to step up the building of mechanized piers in Nadym, Urengoy, Sergino and Nizhnevartovsk and to liquidate in the third quarter the lag that has been allowed to develop in construction and installation work, ensure the commissioning of the piers with all their portal cranes and to install the necessary communications equipment.

The management of the Yenisey Shipping Company together with the construction trusts Krasnoyarsktransstroy of the USSR Ministry of Transport Construction and Krasnoyarskelektroset'stroy of the USSR Ministry of Power and Electrification were obligated to ensure the commissioning this coming December of the Peschanka freight area in Krasnoyarsk port. All deliveries of equipment for the transformer substation and the pumping station of the water supply complex are to be completed by October.

The Capital Construction Administration of the River Fleet Ministry was advised to undertake measures to accelerate the construction of mechanized piers for general supply bases in Tyumen Oblast and the Peschanka freight area of Krasnoyarsk port.

The collegium reviewed the question of measures to ensure the safety of agricultural commodities produced by the sovkhozes and subsidiary farms of the industry, of ways to improve the transportation of freight, machinery and other goods destined for the agroindustrial complex. A report on the subject was delivered by N.Artemyev, chief of the ministry's worker Supply Administration. He informed the session that last year the number of subsidiary farms in the industry had risen.

However, the important work being done to implement the Food Program is not without its shortcomings. These lead to losses and spoilage of agricultural produce.

This year there have been cases of theft of agricultural produce in the ports and subsidiary farms of the Volga United Shipping Company and in the worker supply administrations of the Volgodon and Volgotanker shipping companies.

There are still too many breakdowns and accidents involving ships hauling agricultural produce. Because of lax control by shipping companies and consignors huge discrepancies sometimes occur in determining the weight of grain transported by vessels of the river fleet. The problem of containerizing vegetable and melon shipments from Astrakhan and Volgograd oblasts is being resolved too slowly.

In the period between navigations shipping company chiefs must exercise control over repairs of ships assigned to agricultural-produce haulage. The dispatcher personnel of the companies were instructed to establish strict and continuous control over the movement of ships carrying grain, vegetables, melons and other cargoes for the agroindustrial complex, preventing the non-rhythmic arrival of these ships in loading and unloading ports.

worker supply administration chiefs were advised to bring their warehouses and vegetable storehouses into good technical condition.

12258
CSO: 1829/54

PLAN FOR IMPROVING PORT OPERATIONS UNDER STUDY

Moscow VODNYI TRANSPORT in Russian 11 Nov 84 p 2

[Article by correspondent B. Nesterovskiy: "Preparing for an Experiment"]

[Text] The USSR Ministry of the Maritime Fleet recently held a conference of harbor masters in Nikolayev on ways to improve the command structure of freight-handling operations. Taking part in it were representatives of the ports of Leningrad, Vladivostok, Nikolayev, Kaliningrad, Vyborg and Belgorod-Dnestrovskiy, as well as the Lenmorniprojekt Research and Design Institute.

The conference reviewed the problem of introducing a non-territorial control structure to regulate loading and unloading regulations. The harbor masters voiced the opinion that the new system, and with it the reallocation of auxiliary operations to the mechanization, commercial, technological and living conditions departments would require that these departments be elevated to the status of divisions. Worth looking into is a proposal by the port of Kaliningrad to broaden the functions of the stevedore of the production and transloading complex by making him responsible not only for ship handling, but for warehouse and railroad-car operations as well. The current practice in Kaliningrad is to combine the duties of stevedore and shift warehouse chief only on bulk and other cargoes that do not require a meticulous count. As proposed by the representatives of Nikolayev, the new standard control structure is to include a complex of social services for those involved with loading and unloading operations.

The new control structure for freight handling is to be introduced as an experiment in the ports of Nikolayev, Kaliningrad and Vyborg as of 1 January 1985. The tasks of the experiment involve individual changes in the standard pattern taking into consideration the specific working conditions of each port.

The ministry's Shipping and Operation of the Fleet and Ports Main Administration [Glavflot] and the shipping companies were urged to provide the ports involved in the experiment with a stable workload.

PORTS AND TRANSSHIPMENT CENTERS

PROBLEMS IN ILICHEVSK-VARNA RR FERRY OPERATIONS

Moscow GUDOK in Russian 13 Dec 84 p 3

[Article by GUDOK correspondent M. Gorbis and VODNYI TRANSPORT correspondent D. Romanov, Odessa-Ilichevsk-Varna: "The Ferry: On Sea and on Land: Some Urgent Problems of the Ilichevsk-Varna Crossing"]

[Text] It seems that this was not very long ago. The first Soviet vessel, the ferry "Geroi Shipki," departed from the moorage wall of the port of Ilichevsk. Seventy-six hours later it was met ceremoniously in Varna. Thus began regular rail-ferry traffic between the USSR and the People's Republic of Bulgaria. This sole and in its way unique facility became not only a brilliant embodiment of the thinking of scientists, designers and engineers in practice, but also an implementation of bold mutual decisions in carrying out plans for the socialist economic integration of the two fraternal countries.

The years the crossing has operated also convincingly attest to its exceptional economic expediency. We'll give the following figure: in six years four ferries have carried over 16 million tons of various freight. Now imagine that the freight would have had to be transported in the holds of conventional vessels. Forty motor vessels would have been required for this! And 12 berths would have been required for them and an additional 1,000 persons afloat and almost 2,000 workers in shore services. But this is not yet all. The railroad ferry shortened the delivery of freight by 3-4 times.

The advantages and innovations to which the ferry crossing gave birth could be related for a long while. They generally are well known. But close familiarity with the everyday routine of the crossing, many years of observation, meetings and talks with the people who support the work of its various elements and who in one way or another are a part of the operation of this transportation enterprise, which is the only one of its kind, made it necessary to tell about some of the pressing problems of the crossing's operation.

What Do We Carry?

More than just a few times we had occasion to hear at conferences of various levels and read in newspaper articles words about how well the ferry crossing operates, that its design capacity was reached long ago and that new giant vessels would move onto the line at any time. But not very long ago A.

Tomashev, deputy chief of the Black Sea Shipping Company, declared for all to hear:

"We still cannot achieve the 3.5 million tons a year of carrying capacity established for real operating conditions. From the beginning of the ferry's operation until 1983 the average load of ferries rose, then began to drop. This year it is lower than in the previous year and is 99 railcars with a norm of 108. The mean processing time of ferrycraft at the complexes is being cut extremely slowly and exceeds the berthing time figured under the norms."

Just what happened all of a sudden? Why did everything seemingly go normally on the crossing until 1983 and now, as A. Voynovskiy, chief of the ferry area of the port of Ilichevsk, says: "We have been marking time for two years now"?

There is no "all of a sudden." In the first years in which the ferry crossing was being developed the collectives of ferry complexes essentially were using almost all capabilities to improve work efficiency. Basic indicators were improving continuously.

That was a natural result of the crossing workers' enormous enthusiasm and creative search. A very great deal was done, but only that which depended on the Ilichevsk and Varna personnel. Later (and this was fully natural) a period set in where a further increase in the ferry crossing's work efficiency began to depend on precise coordination and coordinated actions among the foreign trade organizations, shippers and transport workers. In other words, the time demanded a higher level of management and organization of the entire transportation process.

To begin with, let's try to return to the figures quoted by the deputy chief of the shipping company. Well, every ferry carries an average of nine railcars less than it could. And what does it carry in those that it has aboard?

"It carries air!" says V. Chaynikov, deputy chief of the traffic service department of the Odessa Railroad. "Last year, for example, there was only 27.1 tons of freight for each railcar carried."

There can be no arguing against statistics, but just what does this mean? A little more than one-third is loaded in a car in which 60-70 tons can be loaded? That's not quite so. The fact is that in addition to loaded cars the ferry also carries empty ones. What is worse, a trend can be seen toward an increase in the number of cars traveling light. While in 1979 they represented 9.2 percent of the total number sent from Ilichevsk to Varna, in 1982 it was already 19.4 percent. In the following year this figure leaped to 21.1 percent and in October of this year every third car carried by the ferries was empty...

Just why did that situation take shape? Perhaps there is simply no freight? One cannot answer this question unambiguously. There are many reasons, one of which was named by M. Prilutskiy, freight dispatcher of KhEGS [Cost-Accounting Operations Group of Vessels]-4 of the Black Sea Shipping Company:

"In my view, the work suffers because of uncoordinated actions of various ministries and departments. The crossing needs an even arrival of freight."

As a matter of fact, products intended for delivery to the NRB [People's Republic of Bulgaria] arrive extremely irregularly because of substantial miscalculations in planning (current and long-range) at the level of corresponding foreign trade ministries and departments: it's either feast or famine, and most often famine. Meanwhile various products pile up on the Bulgarian side for which ever one and the same car is needed each day. Another fact that plays its part here is that there is one and only one indicator in effect in Varna: the number of cars. This is why it has become a customary picture on the ferry to see an empty car next to a loaded one.

Another reason is the structure of freight flows. They are tied together very weakly. Timber and equipment goes from the Soviet Union to Bulgaria, in gondola cars of course. Canned goods and fruit go in the opposite direction. They can't be loaded in the emptied gondola cars; closed cars must be sent over. And so the flows of empty cars appear.

In general the products list of freight being delivered by the ferrycraft has expanded considerably in recent years. This would appear to be good as opportunities have appeared for maneuvering, but the problem is that this expansion is ill-conceived. It follows the principle of here's the ferry, load it up and they'll sort it out over there...

But later it is difficult to sort out. Here is what G. Georgiyev, chief of the Varna Ferry Complex, says about this:

"Today we often work in the blind. We find out where the cars are coming from and with what when the ferry departs from Ilichevsk. The lack of necessary prompt information ties our hands. Mutual information about the nature and structure of freight being shipped has to arrive in a timely manner, and it must be valid."

"And at times it happens this way: on the night of 30 November 106 cars with automotive equipment, other equipment, timber and other freight was loaded aboard the ferry "Geroi Plevny." Among these cars there were also ten empty ones. Workers of the Ilichevsk-Paromnaya Station passed all this to Varna by teletype, but after giving the car numbers, the kind of rolling stock and nature of the freight they didn't mention the most important thing--to whom and specifically to which enterprises particular freight was heading.

"All these are questions of control. We realize that they can't be resolved at a single sitting, but their acuteness didn't spring up yesterday!"

The Echo Responds...

We are especially troubled by one strange circumstance: too many people see the ferry crossing only in one dimension--from shore to shore. The erroneous-ness of such a view is obvious and requires no special proof. The crossing begins thousands of kilometers from Ilichevsk, there where the freight flows originate and where the main manufacturers of the products heading for export to the NRB are located. And if these freight flows are synchronized on a precise and timely basis and if the products are shipped at prescribed times and to the full extent, then the ferry crossing also operates with a full return. But when the first part, the "railroad" part, is allowed to deteriorate, disruptions simply are inevitable. And what is in our view this strange "forgetfulness" leads to irreparable losses.

All omissions committed in one of the links of this long chain are concentrated here in Ilichevsk. Take the quality of car loading, for example. Many shippers crudely violate rules for the arrangement of freight and the sealing of cars, and the rolling stock itself at times is far from in the best condition.

Each month an average of 200 cars must be delayed in being sent aboard the ferry at the Ilichevsk-Paromnaya Station because of breakdowns and technical defect. Here is a recent example. In the last several days of November station workers were forced to delay cars with metal shipped by the Tajik Aluminum Plant, with pulp shipped by the Kaliningrad Bumprom Production Association, with articles from the Konstantinovsk Chemical Plant and so on because of serious damages in the cars (breaks in the end wall, floors, doors and so on).

These defects were allowed far from Ilichevsk, but even the enterprises serving the Odessa Railroad often err in the very same way. Mineral fertilizers at the Odessa Superphosphate Plant and bitumen at a plant located at Plantayevka Station are loaded into technically unserviceable rolling stock. Correction of the commercial and other defects, however, rests on the shoulders of the Ilichevsk personnel.

But here they have enough of their own problems. The inspectors determined that a considerable portion of the cars can go no further; they need minor repairs. At first glance this does not present special difficulty, for Construction Administration No 142 of the Odesstransstroy Trust especially built three tracks at the station for repair without being uncoupled. As a matter of fact, however, the tracks long ago became parking areas for rejected cars, because due to numerous unfinished jobs the tracks still have not been placed in operation.

Alas, if all the station's troubles ended here...

Unfortunately it already has been customary for diesel engines to regularly travel 35 km to Odessa from the Ilichevsk-Paromnaya Station for loading up with water and fuel, although according to all accounts and reports, a point for their outfitting has been in operation for a long while at the station.

G. Skupoy, chief of the locomotive department of the Odessa Division of the railroad; V. Kuleshov, chief of the locomotive service of the Odessa Railroad; and N. Kravchenko himself, chief of the Odessa Division, repeatedly assured heads of the Odessa Railroad and the collective of the ferry complex that the outfitting facility would become operational literally in a day or two. But month after month and quarter after quarter went by, and the diesel engines continue to travel to Odessa for fuel.

But even if the switching locomotives already are fueled, this does not at all mean that the loaded cars will end up aboard the ferry in time. Great difficulties arise in filling air in the brake system of cars which must be rolled aboard the ferry due to the absence of a compressor unit.

There are many other unresolved matters as well. And the station itself will not succeed in coping with the numerous difficulties without the resolute intervention of heads of the Odessa Railroad.

Of course, I would like to designate the troubles in the station's work as growing pains which will pass on their own when experience has been gained. But the farther things go the more mistakes pile up. It is not only at the station, but also throughout the work of the ferry complex.

So many hopes were placed on construction of a second so-called connecting bridge (it connects the shore with the ferry)! Processing of the ferries would be accelerated so much! A million rubles was invested, rail lines were led up to the new bridge and a deep-water berth was built. And what do you think? Nothing--it is impossible to properly manage this facility. One of the many reasons is that vessels with automotive equipment moor alongside and the ferry has nowhere to touch. A decision by which they first build and spend money and later wonder why hardly can be called sensible.

And many of the "why's" (as well as other questions, by the way) have piled up. All of them have a common feature though they be of differing importance: they are being resolved slowly. This includes the following: material liability of the sides. For many years now there has been a discussion over what is seemingly a clear matter. A draft statute was drawn up long ago which clearly defined who was responsible for what. But the draft has not been accepted: the railroad workers and seamen never can find a common language. Should one be surprised that, according to the most modest estimates, the various losses due to imperfection of management and planning already consist of more than 30 million rubles?

It stands to reason that we have named far from all troubles of the ferry crossing engendered by lack of coordination and serious miscalculations in planning, organization and management. But we will be so bold as to declare that much could have been changed for the better had there been a single coordination management center.

People could object to this by saying that it was for this very reason that a joint directors' council was established. That is correct. From the beginning of the ferry's operation a serious attempt really was made to implement

joint management and introduce a large number of statutes and acts regulating the work of the transportation enterprise. For example, to plan and implement measures for converting the ferry to a permanent schedule, to organize a joint dispatch service, and so on. But today it can be stated boldly that the directors' council has turned into a purely consultative body. Many of its proposals either had doubt cast on them or were simply rejected by the MPS [Ministry of Railways] and the MMF [Ministry of the Maritime Fleet]. Isn't this why many of the most important problems have been awaiting a solution for years?

A Lesson for the Future

It can be stated without exaggeration that the Ilichevsk-Varna ferry crossing has become a unique test area for scientists, analysts, and designers who have tested and are testing their developments here in practice.

But today a further improvement in work effectiveness of the ferry complexes depends to a considerable extent on the use of electronic computer technology. Our specialists already have developed technical requirements for the "ASU [automated control system]-ferry." The introduction of this system will permit an integrated approach to a study of ferry traffic problems and their solution at a contemporary level. This was the subject of discussion at a recent seminar in Odessa of Soviet and Bulgarian scientists and specialists.

It is gratifying that the "ASU-ferry" is beginning to take on real outlines. Development of a railroad subsystem of the Soviet portion of the system is being carried out with the help of the computer center of the Odessa Railroad and VNIIZhT MPS [Order of Labor Red Banner All-Union Scientific Research Institute of Railway Transportation of the Ministry of Railways]. A facility already has been established for processing 1,000 documents a day. An "ASU-ferry" designers' council also has been established and has begun to function. It includes Soviet and Bulgarian specialists.

In paying due respect to the joint efforts of science and practical work, one cannot help but see that science still remains in great debt to the transport workers.

"We are troubled by the slow resolution of important matters," says L. Taraymovich, chief engineer of the railroad's Odessa Division. "We concluded a contract with the Dnepropetrovsk Institute of Railroad Transportation Engineers concerning practical help in introducing EVM [electronic computers] on the ferry. Kasmorproyekt was to have developed the railroad portion of the unified technological process, but to date we have received nothing. We are especially troubled because, together with specialists of the Black Sea Shipping Company, we now are engaged in developing unified integrated technology for operation of the Ilichevsk Ferry Complex. We also have the right to expect specific recommendations from scientists and developers on accelerating document processing, because of which a ferry which is already prepared for departure stands around for hours, and all the time saved prior to that disappears."

Scientists' careful attention to the crossing and its needs is a guarantee that many problems still unresolved will cease to deter the development of international ferry traffic in the near future. Here is the opinion of V. Buyanov, chief of a laboratory of the All-Union Scientific Research Institute of Railway Transportation:

"A solution to the problems involving the ferry complex is being planned at all levels of the automated railway transportation control system. This will permit an evening out of flows of freight being carried and assurance of rhythmic work and full load of the ferry vessels; it will accelerate the processing of cars, documents and ferries; it will increase the processing capacity of the ferry complex; and it will simplify and make rational the turnover of documents. . . . In short, this will be a new, major step along the path of increasing the effectiveness of the crossing's operation."

We will add for ourselves: the faster all ministries and departments which are connected in one way or another with the operation of the railroad-ferry crossing find a common language among themselves and together focus their efforts on the difficult and still unresolved problems, the more confident and certain this step will be.

6904

CSO: 1829/92

PORTS AND TRANSSHIPMENT CENTERS

JUSTIFICATIONS FOR MUUGA PORT PROJECT

Moscow KRASNAYA ZVEZDA in Russian 25 Nov 84 p 4

[Article by KRASNAYA ZVEZDA correspondent V. Khrustov, Tallinn-Moscow: "The Port in Muuga Bay"]

[Excerpts] I will be released to the reserve soon. I would like to work at a Komsomol construction site. I know that a very large commercial seaport is being built near Tallinn and that the construction site has been declared an All-Union Key Komsomol Site. If possible, tell about it in the newspaper.

Pfc I. Trembach,
Subunit Komsomol buro secretary

Tallinn rightly is called the sea gates of the republic. Its port is one of the most important on the Baltic. But it is becoming more and more difficult for the Estonian dockers to work. The freight flows between our country and the ports of Northern Europe, Africa and the Mediterranean grow from year to year. The size of our fleet is growing as well as is the number of foreign vessels coming into Tallinn. The container shipments passing across USSR territory from Japan also are becoming more intensive.

The port also should grow, but it has nowhere to develop: it is in the grip of city blocks. Moreover, the present port is shallow; superships cannot approach its berths.

For this reason construction was begun in the spring of 1982 on a new deep-water commercial seaport in Muuga Bay, not far from Tallinn, which meets the most modern requirements. While we were making our way there Boris Ivanovich Karpukhin, the construction site's chief engineer, told what the Novotallinskiy Port would be like.

"The first section now is being built. It includes two large specialized transshipment complexes: a grain complex with a capacity of five million tons a year; and one for perishable goods--fruit (primarily citrus fruit)--with a capacity of 500,000 tons per year. These facilities alone move the new port into the category of unique. Today we have no such large-capacity specialized complexes, and there are few even in the world."

It has been calculated that dry cargo vessels of up to 100,000 tons capacity will be able to moor at the pier of the grain complex. This is very important inasmuch as, because of the shallow water, such large vessels cannot come into Leningrad or Riga or Klaypeda, and the present port of Tallinn takes only vessels of 20,000 tons.

...The pines remain behind and the vehicle tears along a rather new road cutting across an enormous "cushion" of sand.

"We're driving along the sea," remarks Karpukhin.

Yes, the sea was here not very long ago. In these 2½ years since the beginning of construction people have wrested some 100 hectares from the bay. Now various facilities of the new port's first section are being built on these areas.

The question suggested itself: wasn't it simpler to deepen the bay itself, making it accessible for superships? This also is being done, but more than 14 million cubic meters of soil must be taken from the bottom of the bay to build facilities of the first section. The Novotallinskiy Port will become one of our largest ports, capable of processing tens of vessels simultaneously in compressed time periods. For this reason its berths and piers will extend out into the sea for tens and even hundreds of meters. It is for them that this sand "cushion" has been piled up. By the way, it resembles more a puff-pastry: it has large, firm blocks of rock at its base, then gravel, and only a sand cover on top.

The territory won from the sea is being developed on a planned basis. The construction of many production and social-personal facilities is in full swing. The fact that berths for the port fleet and construction materials became operational had a favorable effect on accelerating the construction rates of those facilities. Vessels with construction materials now come right into Muuga Bay and the heavy-duty portal cranes quickly unload them.

Work at facilities of the Novotallinskiy commercial seaport is being conducted at high tempos. The port will receive the first vessels in late 1986. This will be a foremost, highly mechanized enterprise. Its first section alone will be able to process a little more than twice as much freight as the present port of Tallinn, with half of the number of workers employed here. With the commissioning of all facilities in Muuga Bay the Novotallinskiy commercial seaport will become one of the three largest ports in the country.

6904

CSO: 1829/92

PORTS AND TRANSSHIPMENT CENTERS

BRIEFS

MAGADAN COMMERCIAL PORT COMPLEX--A powerful modern container terminal has gone into operation at the Magadan marine commercial port in Nagayeva Bay. This is a complex of structures which includes a mechanized warehouse, a new berthing line, approach railroad tracks, large crane operations and open storage yards. It is designed to process cargoes going to the north in large 20-ton "ocean-going" containers. With the start-up of the terminal, the volume of the most efficient container transport through this marine harbor, unique in the northeast, operating year-round, will increase to 1.8 million tons a year. The general contracting Magadangorstroy Trust of the USSR Ministry of Construction in the Far East and Transbaykal Regions turned over the complex to the buyer with good quality and in the planned period. [By Yu. Ralin] [Text] [Moscow STROITEL'NAYA GAZETA in Russian 17 Oct 84 p 2] 12151

RIVER PORT EXPANDING--Urengoy (Tyumen Oblast)--The second complex of the river port here has gone into operation. A batch of large-diameter pipes has been delivered along the Pur River. The Urengoy port is located in the center of the largest gas-extraction region in Western Siberia. The port's capacity doubled when the second complex was put into operation. So far cargoes are received here, but next year the harbor will become a major transshipment point. From here, cargoes delivered by railroad will go to remote areas. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 18 Oct 84 p 1] 12151

NEW FLOATING CRANE DEVELOPED--Gorkiy Oblast--The collective of the Borskiy plant Teplokhod has begun series production of new floating cranes with an increased load capacity, designed mainly for operation on small rivers. Operational tests showed that the new crane, in comparison with its predecessors, can operate in 20-degree frosts. The housing of the floating vessel has an additional metal plating. The crane operator's cab has been raised two meters above the main deck superstructures: the view has been broadened and the unloading and loading efficiency increased. The designers were also concerned with improving the every-day conditions for the crew. The ship has one- and two-berth cabins, a separate galley and every-day living facilities. [By SOTSIALISTICHESKAYA INDUSTRIYA correspondent V. Noskov] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 26 Oct 84 p 2] 12151

LENINGRAD PORT RELATED ENTERPRISES--Leningrad--The cooperation of the related enterprises of the Leningrad transport center has again ensured a high-quality end result. The collective of the maritime commercial port fulfilled the plan for four years of the five-year plan ahead of schedule. Various cargoes that were 1.5 million tons greater than in the entire preceding five-year plan were processed at the port berths during 46 months of the 11th Five-Year Plan. The seamen, railroad workers, motor vehicle drivers and port workers are constantly increasing the volume of cargo transfer in accordance with the most efficient variant, "transport-transport". The interaction of the related workers ensured an additional freeing of almost 70,000 railroad cars. Labor productivity grows yearly in the materials handling operations. Before the end of the year the port workers, with the support of the related workers, will process additional hundreds of thousands of tons of national economic cargoes. [By V. Ponomarev] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Nov 84 p 1] 12151

NON-FREEZING PORT--(TASS)---A non-freezing port in the Moonzundskiy Archipelago has received its first vessels. Its first section was constructed on Saaremaa Island at the small town of Veera. This fulfilled one of the main orders of the voters which they gave during the last elections in the Estonian Supreme Soviet. [Text] [Moscow VODNYI TRANSPORT in Russian 22 Nov 84 p 1] 12151

CONTAINER TERMINAL THROUGHPUT IMPROVED--Nakhodka--How can the throughput of the container terminal of the Nakhodka commercial port be increased? Specialists of the enterprise have decided to entrust the role of dispatcher to the electronic computer installed on the basis of the domestic SM-4 control complex. The unit is specially manufactured for the container terminal of the harbor sector by the Kiev Elektronmash Production Association. The preliminary results indicate the reliability and high efficiency of the system. [By I. Bolbas] [Text] [Moscow VODNYI TRANSPORT in Russian 22 Nov 84 p 1] 12151

ZHDANOV CONTAINER PROCESSING IMPROVED--Zhdanov (TASS)--The specialized berth constructed here at the Zhdanov maritime commercial port will make it possible to increase by one-third the volume of container cargoes processed. It was turned over for operation one and half months before the deadline and received the first large-tonnage vessels. A railroad branch leads to the terminal to transfer cargoes along a direct alternate, "vessel-railroad car", as well as a highway to the mechanized warehouses. Due to the ahead-of-schedule introduction, the berth will handle an additional 25,000 tons of cargo. [Text] [Moscow VODNYI TRANSPORT in Russian 1 Dec 84 p 1] 12151

NEW ZHDANOV CARGO FACILITIES--Zhdanov--Another berth to the score, the 15th, has gone into operation at the Zhdanov maritime port. It will make possible a sharp increase in processing national economic goods. Putting it into operation will complete the formation of a new third cargo area, which will process container carriers and some of the "ro-ro" vessels. The port workers of Zhdanov will now be able to transfer an additional 300,000 tons a year of cargoes in containers and of metal. [By VODNYI TRANSPORT stringer A. Turbayev] [Text] [Moscow VODNYI TRANSPORT in Russian 6 Dec 84 p 1] 12151

ELEVATOR FOR RIGA PORT--(TASS)--The pace of the grain elevator at the Riga commercial maritime port has been doubled. A powerful elevator has begun to operate here, the launching of which has fulfilled an important item of the year's commitment of the Latvian SSR workers. The elevator's capacity is 2.5-fold greater than that operating up until now. [Text] [Moscow VODNYY TRANSPORT in Russian 6 Dec 84 p 4] 12151

NEW BERTH IN MAGADAN--Construction of a huge mechanized berth has been completed in the Magadan commercial port. In order to build it, it was necessary to "cut" in two the nearest hill and to lay hundreds of thousands of cubic meters of cliff rock on the sea floor. The buildings and structures of this modern covered terminal sit on land wrested from the Sea of Okhotsk. At full capacity the terminal will be able to handle millions of tons of containerized freight. [By IZVESTIYA correspondent R. Bismukhametov] [Text] [Moscow IZVESTIYA in Russian 7 Oct 84 p 2] 12258

VENTSPILS BERTH BEGINS OPERATIONS--(TASS)--A deepwater berth has begun operations at the Ventspils portside plant. Its builders wrapped up the project one month ahead of schedule. This will allow the plant's collective to ship out many thousands of additional tons of goods before the end of the year. [Text] [Moscow VODNYY TRANSPORT in Russian 13 Nov 84 p 1] 12258

OSA BERTH COMMISSIONED--Perm Oblast (TASS)--The first heavyweight ships have been processed at a new berth in the ancient town of Osa, which stands on the Kama River in an area far removed from any railroad. With the introduction of the berth into the sizeable agricultural area surrounding Osa, shipments have begun of mineral fertilizers from the upper reaches of the Kama for next year's harvest. [Text] [Moscow VODNYY TRANSPORT in Russian 15 Nov 84 p 4] 12258

CSO: 1829/54

INTERSECTOR NETWORK DEVELOPMENT

RAILWAYS BLAMED FOR VANINO-KHOLMSK CROSSING DELAYS

Moscow VODNYI TRANSPORT in Russian 1 Dec 84 p 2

[Article by VODNYI TRANSPORT correspondent V. Antonenko: "A Bridge Without Piers"]

[Text] Kholmsk--The development of the natural resources, as well as the economic and social advancement of Siberia and the Far East, is one of the most important tasks facing our country today. There is perhaps not a single sector of the national economy that is not taking part in the effort. A special role belongs to transport, whose job it is to ensure an uninterrupted flow of various goods to and from the remote oblasts of the country. A large part of the responsibility for that rests on the shoulders of railroad workers and seamen, because an overwhelming proportion of the raw materials, manufactured goods and machines is to be transported by train or ship.

That is why we place high demands on the workers of the maritime and river fleets and the railroads: on-the-job precision and harmony, mutual understanding, a reciprocal sense of obligation in all matters. And above all, strict observance of schedules on each and every section of the accelerating transport conveyor which links the country's raw material sources with its industrial center.

One such section is the Vanino-Kholmsk ferry. Its current capacity can no longer cope with the flow of cargoes in both directions. To expand that capacity, construction of the ferry line's second phase, scheduled for completion in 1984, was begun several years ago. Also planned was the addition of four new icebreaker ferries of the "Sakhalin" class to supplement the seven already in service and to increase the traffic volume by 80%.

It goes without saying that such a jump in the cargo flow promises to greatly benefit both the region itself and the national economy as a whole. How are things going at the project today?

The general contractor outfit of Sakhalinstroy Trust construction administration No 410, working in close collaboration with its client in the person of the shipping company, is erecting in quick tempo the maritime part of the ferry project--two berths with auxiliary structures. Already operative is the 8th berth in the port of Kholmsk. Massive dredging and shore reinforcement is being conducted here.

A great deal of work is being carried out on the mainland by the construction and installation train No 284 of the Dal'transstroy Construction Trust.

The assimilation of capital investment into the maritime part of the 2nd stage now stands at 1.4 million rubles above plan, including 200,000 rubles in construction and installation work. There is complete confidence that in the second quarter of 1985 the ferry berth on Sakhalin will be ready.

Unfortunately, the approach to the ferry project by the Ministry of Railways and its Far Eastern Railroad is a far cry from that of the Maritime Fleet.

Thus, a three-kilometer long and 200-meter wide levee must be built on the island. Without it the sidings at the Kholmsk station, where second-priority cars are to be processed, cannot be widened. However, the work has only just begun.

Overall, the railroad workers are behind schedule by several years, although the volume of the construction and installation work they must carry out far exceeds the maritime ministry's assignment.

Of course, in this situation the seamen are neither standing idly by nor just registering the negative facts. They are demanding that the railroad workers draw up a complete title list of their projects and provide the builders with blueprints. What's more, they have taken part of their collaborator's burden upon themselves. Thus, at the Vanino station they have begun putting up an embankment for four lines of track. The estimated cost is about 600,000 rubles, and a large part has already been assimilated.

One gets the impression, however, that all this is of little concern to the railroad workers. It looks as though they would much rather not bother with the 2nd stage at all. How else can one regard the railroad's proposal that after the commissioning of the ferry's maritime part the seamen "switch off" its 1st stage? The argument is that with current track capacity the ferry complex cannot be serviced in its entirety.

Well, no, it cannot be. But that is exactly why the station complex must be developed both on the island and on the mainland. Otherwise, what can the state hope to gain from investing such huge sums into the project's maritime part alone?

Figuratively speaking, the 2nd stage is now a bridge with no land piers. Berths are being built, the 8th "Sakhalin" will soon arrive in the Tatar Strait, any day now the BAM will start delivering a flow of freight, but the Vanino railroad workers have not a single square meter of additional territory at their disposal.

It seems that the breakdown of track construction was "programmed" by the Ministry of Railways a long time ago. At one of the meetings convened by administrative organs as far back as September of 1982, it was emphasized that delays by the Ministry of Railways in the construction of spur lines to the Vanino-Kholmsk ferry complex (the 2nd stage) would preclude the commissioning of the complex in 1985, the deadline set by the five-year plan.

It is in this context that the Railways and Transport Construction Ministries, in conjunction with USSR Gosplan and the Ministry of the Maritime Fleet, were advised to review the problem and come up with ways to speed up work on the technical documentation and on the construction of the project's top-priority railroad structures so as to ensure the commissioning of the 2nd stage in 1984.

Soon after this a conference under the aegis of USSR Gosplan gave concrete expression to the task (we quote from the protocol): "... the Kholm'sk station development plan will be completed in the first quarter of 1983, and the blueprints for the first year of construction--in the first half of 1983."

In actual fact, however, the project plan was ready at the end of 1983 and the blueprints handed over to the builders only in the first quarter of the current year. Consequently, the assignment was not carried out, and today the commissioning of the second stage of the ferry complex in 1984 is out of the question.

"Concern, even alarm, if you will, over the state plan must not leave us for a minute," said comrade K. U. Chernenko at the April (1984) Plenum of the CPSU Central Committee. "And let's agree on this: any breakdown, any shortcomings allowed to happen this year will lead to the guilty parties being held more strictly responsible than ever before."

Who in the Ministry of Railways will answer for the inexcusable delays which are hamstringing the construction of a project listed in the five-year plan?

12258

CSO: 1829/87

INTERSECTOR NETWORK DEVELOPMENT

PALLET, CONTAINER SHIPPING FOR FAR NORTH STRESSED

Moscow MATERIAL'NO-TEKHNICHESKOYE SNABZHENIYE in Russian No 9, Sep 84 pp 56-58

[Article by V. Mikhaylov, deputy chief, Container and Pallet Shipments Administration, USSR Gossnab: "Safe Passage for Cargoes for the Far North"]

[Text] The development of industry, construction, power engineering and other sectors of the national economy in the Far North, a region rich in natural resources, engenders a continuous increase in shipments to those parts of industrial and technical commodities. The harsh climate, the very short period of navigation, the repeated transloading of freight in sea and river ports pose special problems for the transportation process. It is equally important here to speed up the movement of cargoes and ensure their full preservation. Experience has shown that this can be achieved by way of pallet and container shipments.

Working jointly with ministries, departments and transport organizations, USSR Gossnab has done much to increase the shipment of cargoes to the Far North by container and pallet. Thanks to the measures undertaken, last year alone container deliveries rose 15%, pallet shipments--by 26%. Practically all rolled metal, small and medium-diameter pipes, roofing slate, heating radiators, refractory materials, standard housing parts, sawtimber and many foodstuffs are now shipped on pallets. A significant contribution to the development of palletization has been made by the USSR Ministries of the Meat and Dairy Industry, Ferrous Metallurgy and the Construction Materials Industry.

The contribution of the transport ministries to the development of container shipments is likewise significant. The railroads now dispatch cargoes in large-size containers by way of the direct railroad-waterway route of Moscow-Yakutsk via the port of Osetrovo. A new container line, Leningrad-Archangelsk, was opened on the initiative of the RSFSR Ministry of the River Fleet.

Top priority is given to the shipment of consumer goods in large-size containers, as well as bulk cargoes in disposable soft containers and on pallets. Shipments of foodstuffs and industrial goods have begun in large-size containers from Moscow and other major industrial centers via the river ports of Osetrovo and Krasnoyarsk to Yakutsk and other populated points in the Lena basin.

More cargoes in large containers are also being dispatched to Arctic, Chukotka and Magadan regions. The extremely short navigation seasons in these areas have been taken into account. In order to cope with them, USSR Gosnab, together with the Ministry of the Maritime Fleet, the RSFSR Ministry of the River Fleet and other relevant ministries, has drawn up and approved special assignments for the current year. In accordance with these the transport ministries have stepped up shipments of goods in universal large-size containers.

Special consideration is given to the shipment of such bulk cargoes as salt, sugar, flour and mixed feed in soft containers and on pallets. Analysis has shown that 35-40% of their total volume lends itself to palletization. To achieve this figure, much remains to be done by the consignor ministries. Containerization and palletization of grain shipments will continue to increase in the future. To cope, the Ministry of Procurement will have to organize palletization of flour and mixed feed directly at the final phase of production. In the immediate future the volume of palletization is slated to grow almost threefold. It is equally imperative to reduce the number of suppliers, concentrate outshipments at the largest and best-equipped enterprises and establish direct contacts with river and maritime ports.

The USSR Ministry of the Construction Materials Industry and Soyuzglavtsement are devoting much effort to the task of dispatching cement in thermostable film, in slings and extralarge containers via far eastern and northwestern seaports and the Osetrovo river port. Shipment of this material to regions of the Far North has been entrusted to the Spassktsement Production Association and the Timlyuyskiy Cement Works. That is why it is so important to provide them in full measure with all the above-named means of palletization. However, for now the problem does not stop there. This year a number of enterprises are still shipping cement individually in paper bags. Special brands of cement and oil-well cement are up to now being sent out unpalletized.

To reduce the volume of heavy manual labor in loading and unloading operations, the wide introduction of soft containers is planned. This is being done by the USSR Ministries of Mineral Fertilizer Production, the Petroleum Refining and Petrochemical Industry and Nonferrous Metallurgy. All preparatory work is to be completed by the end of the current five-year plan. Unfortunately, it is already behind schedule. The Ministry of the Chemical Industry has not mastered series production of soft containers. The recently constructed facilities of a new shop at the Novomoskovsk Polimerkonteyner Chemical Plant are still inoperative, and the development of a method to produce polyethylene of the needed durability is taking much too long.

There are many unresolved problems in the transportation of fruits and vegetables. Introduction of pallets and containers is proceeding too slowly. As a result, a significant part of the potatoes is shipped out in sacks, nets and wooden crates. Large quantities of sawtimber are expended, more heavy and unproductive manual labor is done and, most importantly, the preservation of the cargoes is not guaranteed.

Also unresolved, unfortunately, is the problem of transporting motor vehicle and tractor tires, soft roofing materials, various chemicals, asbestos cement pipes and ceramic tiles. No palletization formulas for these cargoes have been developed yet. The lead institutes of some ministries, particularly those of the

Chemical Industry, the Construction Materials Industry and of Procurement are deeply in debt vis-a-vis the national economy. They have still not come up with any effective pallets or containers.

The increase in the shipment of cargoes to the Far North in unitized form on pallets and particularly in sling packets, special and all-purpose containers, gives rise to the problem of organizing the return of these reusable packaging elements. For example, flour and mixed feed are unitized with the aid of slings, but the latter's rate of return is totally unsatisfactory. As a result, only 15% of the slings are used a second time.

The rate of return for reusable flat pallets is likewise inadequate. The Osetrovo river port and the seaports of the Far East fabricate them in the tens of thousands annually, but a significant proportion is never returned. Losses of reusable rubber fabric containers for bulk cargoes are also substantial.

The Lena United Shipping Company and some consignee enterprises in the Yakut ASSR and in Magadan Oblast have of late allowed their control over the return of empty all-purpose containers to slip. The situation is especially unsatisfactory in the Lena basin. USSR Ministry of Non-Ferrous Metallurgy enterprises have accumulated several thousand containers. Many more are being held up by certain Ministry of Construction of Petroleum and Gas Industry Enterprises plants located in Tyumen Oblast. This greatly slows down cargo shipments during the short navigation season there.

Much has to be done by the Lena United and Ob-Irtysh United Shipping Companies, and the Yakut, Tyumen and Northeastern Main Territorial Administrations to rectify the situation. In our opinion, influence could be brought to bear on these irresponsible users by local Soviet organs, the republic and oblast boards of arbitration.

It is altogether fitting to recollect that over 10 years ago the return of reusable palletizing elements was a smoothly functioning operation. The Lena United Shipping Company, which then was receiving through the port of Osetrovo about the same number of medium-size containers as today, managed to return practically all of them. As a rule, the company's indebtedness to the East Siberian Railroad did not exceed 7-8% of the total number received. At the end of the navigation season the year before last, that indebtedness stood at roughly 50%. This state of affairs in the matter of container return can hardly be called normal.

The special conditions that prevail in shipping to the Far North--a very short navigation period, the absence of railroads, a harsh climate--call for wider use in these areas of lightweight and cheap disposable packaging elements such as single-layer pallets, large carton boxes, polypropylene and stretch tape for palletless packetizing of cargoes, thermostable film and soft disposable containers. One useful measure, for example, would be the replacement of reusable rubber-fabric containers, which are scarce, by disposable soft containers of the MKR-1.0S type.

The caking and freezing up of bulk cargoes, the difficult conditions of storage and return shipments lead to the loss of most of the costly palletizing elements. With this in mind, USSR Gosplan drew up its annual packaging materials balance

and distribution plan allowing for possible replacement of multiuse containers by disposable containers which cost five times less than the rubber fabric ones. Moreover, they ensure full preservation of their contents. This year 60,000 fewer rubber fabric containers will be used than in 1982, while utilization of soft containers will increase by the same number. This measure will lead to a savings of nearly one million rubles.

The transportation of piece-goods to remote regions in the Far North is best served by broader use of wire slings and other economic means of packetization. To encourage suppliers to switch as quickly as possible to progressive packaging, the USSR State Committee on Prices is currently readying the imposition of a surcharge on the price of goods shipped out in slings. This will allow consignors to make up for the added cost of packaging their cargoes.

Among the measures undertaken to facilitate shipments of goods in large-size containers is the reconstruction and major development of many sea and river ports in the Far East, Siberia and the European Northwest of the country. New, well-equipped berths with container transloading facilities, heavy-duty cranes and various in-port loading and unloading devices have been built and put into operation. Today it is not only the major ports that can handle the large containers. The maritime and river fleets of the shipping companies of the country's north and east can cope equally well. However, their potential is currently not being fully utilized.

The task we face is to significantly increase the volume and expand the geography of shipments of effectively packaged goods to the Far North. This will lead to a substantial improvement in supplying the remote areas of the country with all the resources and consumer goods they need.

COPYRIGHT: Izdatel'stvo "Ekonomika", "Material'no-tekhnicheskoye snabzheniye",
1984

12258

CSO: 1829/84

INTERSECTOR NETWORK DEVELOPMENT

OFFICIAL WANTS LOWER TARIFFS ON CONTAINER SHIPPING BY TRUCK

Moscow VODNYI TRANSPORT in Russian 18 Dec 84 p 2

[Article by V. Kuznetsov, chief, Department of Container and Pallet Shipments, Soviet Danube Shipping Company: "Straight from Deck to Truck"]

[Text] To accelerate container park turnover and to increase the effectiveness of this type of shipping, the Soviet Danube Shipping Company, acting in conjunction with V/O Morkonteyner, proposed that the Ministry of Foreign Trade organize the delivery of containers by truck from shipboard directly to their destination. The eight semitrailers specially acquired for this purpose delivered 100 containers in their first year of operation alone, saving the company 25,000 rubles. This was the first step.

Having amassed some experience in this type of haulage and considering the stable character of our cargo flows, this year we purchased 19 additional rigs with Volvo-12 semitrailers. These were transferred to the motor pool of the port of Izmail, which by and large services container ships. Mass deliveries of goods in containers were organized. In July and August alone, 114 units were transported. Studies indicate that 2,500 containers could be handled annually, which would yield a savings of nearly a million rubles.

To avoid ship and truck demurrage, from 1 September we organized the work of the container fleet to conform to a strict schedule. The ships involved are of the "Rostok" and "Kapitan Antipov" classes. They ensure weekly departures from Hungary, the CSSR, the FRG and Austria. The terms have likewise been agreed upon for haulage of import cargoes from Yugoslavia (about 50 containers per month).

There is, however, one problem that is holding up further development of this shipping system. This is the problem of tariffs. They are significantly higher than those charged by the railroads. In spite of all the efficacy of motor vehicle transport and, chiefly, the guaranteed return of the containers to the consignor, excessively high tariff rates for truck haulage are an impediment to further progress in this area.

12258
CSO: 1829/87

END

END OF

FICHE

DATE FILMED

20 Feb 1985